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Special Game Design Issue



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MENU

Vol. 5 No. 2 **April-May 1985**

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You bet we do. Take a look at *Chickamauga*: it uses the Atari's capabilities to their fullest, from player-missile graphics to joystick. Of course, it's written entirely in machine language.

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In September of 1863, the Confederate Army of Tennessee, secretly reinforced from Virginia by Longstreet's Corps, reversed its retreat to attack the pursuing Union army near Chickamauga Creek. The battle that followed was one of the hardest fought and most evenly matched of the Civil War.

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A section of the battle map. The player is ready to move Law's Brigade of Hood's Division, Longstreet's Corps (the white X).

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Why not take this opportunity to subscribe to *Computer Gaming World?* A subscription card can be found facing page 40.



LODE RUNNER CONTEST WINNERS

Last August we announced our Lode Runner Contest. Over fifty screens were submitted by talented CGW readers. Most were excellent according to our two judges, Bob Proctor and Dan Stalcup. Playing all those entries was a challenge and a lot of hard work for Bob and Dan. Thanks guys!

Prizes were awarded in four catagories: Best Overall; Best Appearance; Most Challenging to Solve; and Most Challenging to Play.

Messieurs Proctor and Stalcup, the envelope please:

The award for the *Most Artistic* screen goes to. . John Berry of Houston Texas for his Sailing Ship Screen. Congratulations John. Please keep your acceptance speech within time limits.

And next: the award for the *Most Challenging to Solve.* The envelope, gentlemen, if you please... And the winner is... Terry Schulz of Murrysville Pennsylvania. Congratulations Terry.

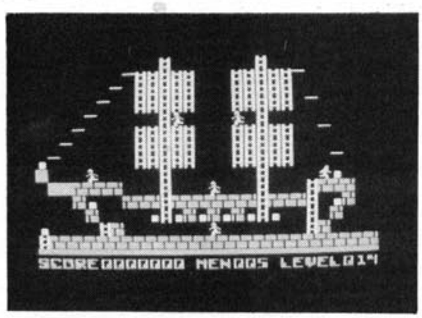
Our next award goes to the screen that was the *Most Challenging to Play.* And the winner is... Robin Cox of Houston Texas. Come on up here to the podium, Robin, and thank all the little people that have made your victory possible.

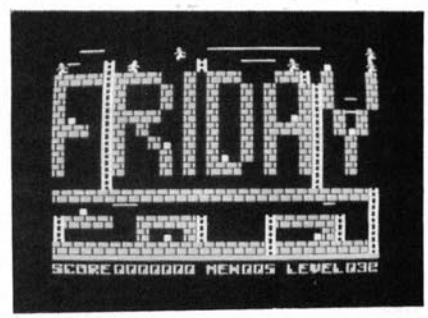
And finally (drum roll in the background), the moment you've all been waiting for. . . The Overall Winner!

This year's winner of the *Best Overall Design* hails from the Houston Load Setter's Group (a wild and crazy bunch of Lode Runner players). . . And his name is. . . STEVE VOSS for his "Friday" screen. Congratulations Steve! (Cut to commercial).

Commercial: Would you like to be able to play the CGW Lode Runner Contest in your very own home? Well, now you can! Just look for the CGW Lode Runner Data Disk offer elsewhere in this magazine. You to can play the champions. Be the first one on *your* block to get one. But wait... there's more! If you play Robotwar or Cosmic Balance, there are Data disks for you too! (End commercial, back to program).

Well, folks, that's about it for this year. But before we go, we would like to extend our thanks to Broderbund Software who provided the prizes for the contest. Steve will receive $50.00 for the best overall design. Our other three winners will receive games from Broderbund. Good night, and God Bless!





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TAKING A PEEK

Avalon Hill Game Co.
4517 Harford Rd.
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BY FIRE & SWORD: A multi-player game set in a mythical European kingdom in the early 10th century. One to six players begin as local barons, controlling a small area, and seeking to expand it through acquiring vassals and battling the other lords. The computer can play any of the positions in this game designed for up to six players. IBMpc and PCjr. 128K.

INCUNABULA: Nothing less than the growth of civilzation is the subject matter of this game. If you have ever played Avalon Hill's board game *Civilization*, you know what *Incunabula* is like. You begin as a small tribe facing an unexplored land. As your tribe increases you become a clan, build cities, and grow towards eventual nationhood, attaining a "basis of law" for your society. Warfare plays a role in the game, but not as much as trade and economics (just as in real life). IBMpc and PCjr. 128K.

LEGIONNAIRE: The C-64 version of Chris Crawford's real time wargame of ancient warfare is now available. Legionnaire uses the same basic game system as Crawford's *Eastern Front* to produce a highly playable and realistic feeling game. You are Caesar as you lead your Legions against the barbarians of Gaul. C-64, Apple, Atari.

PRO MANAGER: A statistics-based baseball simulation. You can play with last year's teams, great teams of the past, or key in your own teams. The program supports league play by keeping track of standings and displaying league stats. A powerful data base manager reports league leaders in just about any format you want (e.g. top 3, top 10, top 10 with at least 50 at-bats, and so forth, individual "real" and computer league stats, etc.). Look for more coverage in our next issue. IBMpc and PCjr.

Earthware Computer Services
P.O. Box 30039
Eugene, OR 97403

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BLACK BELT: A taekwondo simulation/arcade-style game. A player moves up in rank as he increases his skill and wins matches. Two player or one player versus computer. Twenty different actions are available. Joystick or keyboard. Apple, C-64. $29.95.

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THE BATTLE OF CHICKAMAUGA: The blerb on the box claims that *Chickamauga* is "the most accurate and realistic battle game available for any computer." While that remains to be seen, one thing is certain: this game is a strong first release from a company who has gained a good reputation from their board and role-playing products. A total of 45 pages of excellent documentation and a four color paper map accompany the disk. There is a lot of detail in the game but play is easy. Review coming. Atari. $35.

Lewis Lee Corp.
P.O. Box 51831
Palo Alto, CA 94303

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BANK PRESIDENT: This is not a game! This is a simulation in the real sense. We understand some banks have used this program to train personnel. We believe it. If you really want to experience a financial simulation, this one is the ultimate. As the bank president you choose product lines, deal with employee salaries, issue and redeem stocks and bonds, manage your investment portfolio, speculate, hedge, borrow, loan, and set loan rates. The only option missing is the option to give away place settings with each new account opened at your bank. IBMpc. 128K.

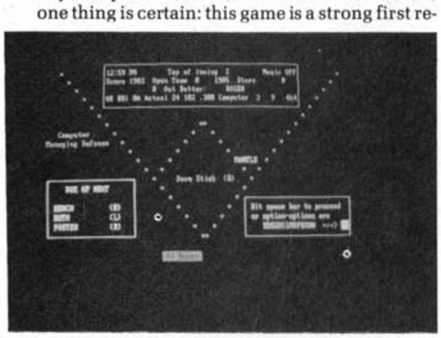
Muse Software
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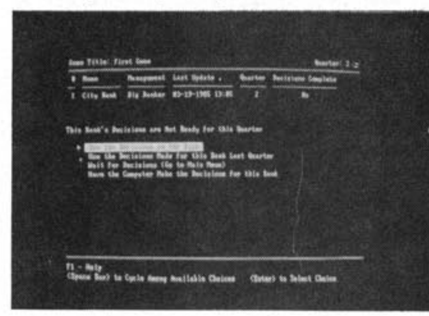
BEYOND CASTLE WOLFENSTEIN: The sequel to the popular Castle Wolfenstein. The game is similar to the original. In this one you must make your way through Hitler's bunker, find the



BY FIRE & SWORD



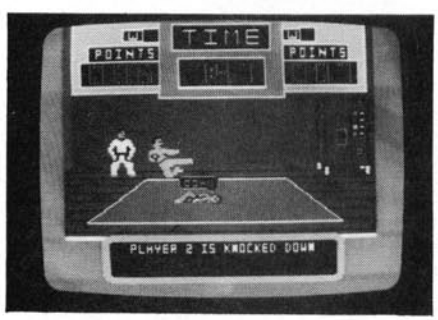
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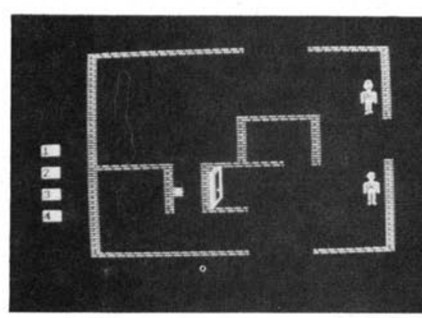
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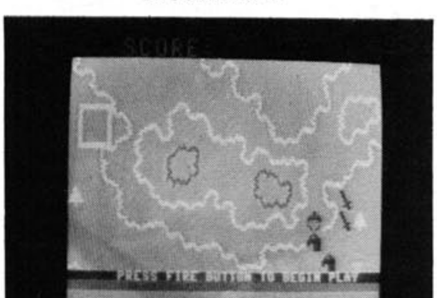
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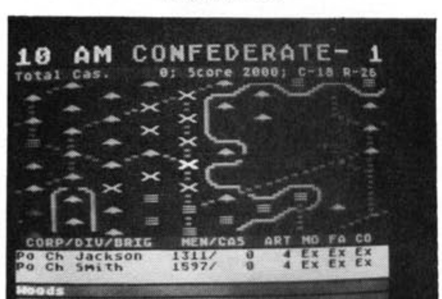
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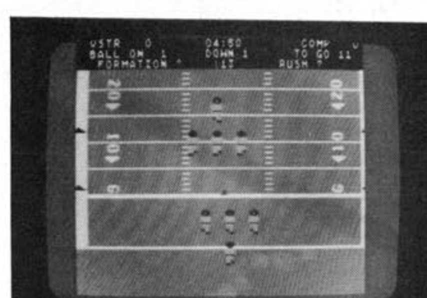
BEYOND CASTLE WOLFENSTEIN



LEGIONNAIRE



THE BATTLE OF CHICKAMAUGA



ON-FIELD FOOTBALL

pre-planted briefcase/bomb, take it to the Fuhrer's conference room, set the timer, and escape. New twists in this game are the ability to bribe guards, the use of a dagger to kill silently (guns tend to alert guards nearby). Good luck, you'll need it! Apple, Atari, C-64.

Gamestar
1302 State St.
Santa Barbara, CA 93101

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ON-FIELD FOOTBALL: Another excellent arcade style sports game from Gamestar. As expected, OFF has great graphics. Play selection and player movement is done from the joystick. Each side has four players. A good beer-and-pretzels game. C-64 reviewed.

Simulations Canada
P.O. Box 452
Bridgewater, Nova Scotia
Canada B4V 2X6

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BATTLE OF THE ATLANTIC: An area movement game that simulates the struggle for control of the sea lanes from North America from North America to England and Russia during WWII. The Allied player must keep the shipping lands open, while the Axis player must deploy air, surface and submarine forces in attempt to strangle the Allies. Computer can play either side, or play it as a two player game. Review coming. Apple II. $60.00.



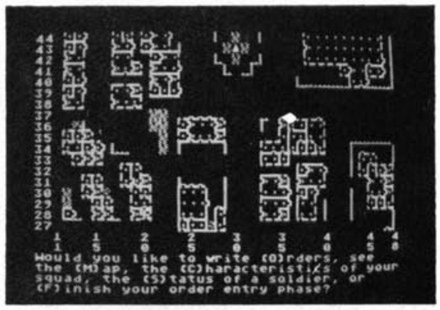
BATTLE OF THE ATLANTIC

Strategic Simulations
883 Stierlin Rd., A-200
Mountain View, CA 94043-1983

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COMPUTER AMBUSH: The second edition of CA is now available on both the Apple and Atari. Man-to-man combat in WWII. The orginal Apple version required centuries to play, this new version is faster, much faster.

CGW has a new phone number: 714-535-4435



COMPUTER AMBUSH

FROM THE EDITOR:

STOP THE PRESSES!

Welcome to our Game Design Issue. Scattered throughout this issue are several articles dealing with various aspects of computer game design. Dan Bunten discusses some basic elements about the human need to *play* in his *Dispatches* column. Jon Freeman, in *Name of the Game* talks about the process of deciding what to design. Bruce Webster is back with more artificial intelligence information in his column, *Silicon Cerebrum*. Tom Cheche tells us what it is like to be a playtester, and finally, Roe Adams discusses adventure game designing in *Come Cast a Spell With Me*. Whether you are a designer or a player, we think you will learn much from these articles. Have fun!

The other special note in this issue is CGW's announcement that we will be adding the IBMpc and PCjr to our product line (see *IBM Goes To War*). Now we know what it's like to yell "stop the presses". We were literally moments away from putting this issue to bed and going on the presses when the news broke about IBM's decision to drop the PCjr.

The facts are not all in; but one thing is clear: With the PCjr out of the picture, the software publishers are going to have to reevaluate their IBM strategy. It will be interesting to see what they decide. It may turn out that the loss of the PCjr will not have as great an impact as one might think. On a projected sale of one million units last year, IBM only sold 240,000 Juniors. We will be keeping a close eye on the IBM situation.

For now, there are some exciting new IBM designs coming out. Read about two of them in *IBM Goes to War*.

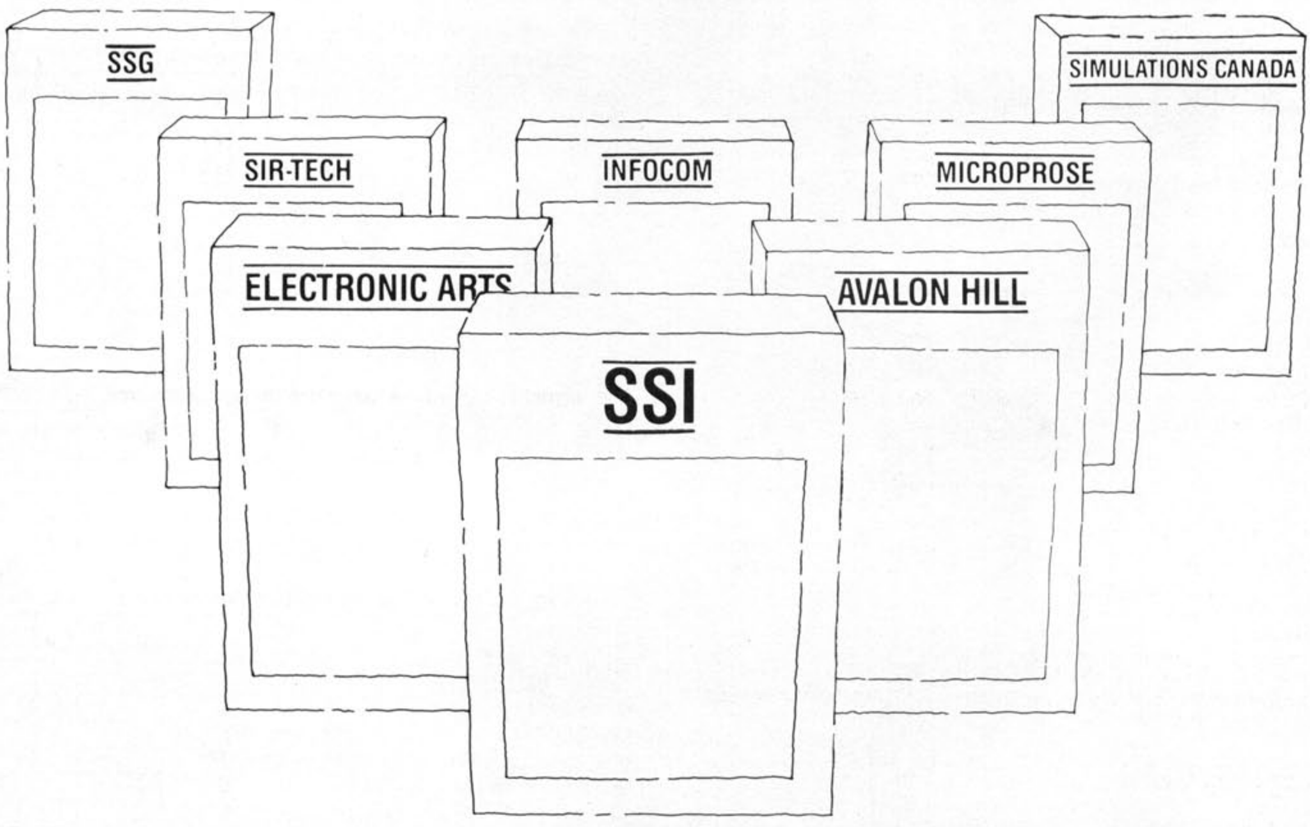
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LETTERS

Dear Editor:

Upon reading you review of our *Dreadnoughts* game (4.6, page 37), I noticed that there were one or two minor points that needed clearing up:

"Like its companion game, Under Southern Skies . . . ." Lest there be a misunderstanding, there are few similarities between the two games. They were designed by two different people using two different game systems.

"The player attempts to elude the famous Swordfish Squadron . . . ." Partly correct. Assisting the planes in a minor supporting role is the entire Royal Navy, including the *Hood, Prince of Wales, King George V* and others. They're all on the map, but hidden from the player. To resolve each turn, the computer moves the 20-odd ships, their direction depending upon where the *Bismarck* was last spotted.

"There are no graphics for the tactical display . . . ." The accuracy of the statement depends upon your definition of "graphics". The tactical screen shows a field of dots upon which the ships (represented by numbered squares) move. Each ship also has a damage screen in which the placement and condition of each main and secondary gun are shown graphically. Austere, simple, but a long way from our text wargames like **B-1 Bomber**.

"There is no real reason to give a visual display after every minor contact . . . ." A debatable point. The displays tell the German commander what he sees. A display with minor ships tells him what the ships are and where they're coming from. This is vital in choosing a course for evasive action. Since the ship that spots the *Bismarck* also radios its speed and heading to the rest of the Royal Navy, it becomes even more imperative to see the display.

"The artificial intelligence doesn't allow the allies to fight unless they have numerical superiority." This is an intentional design, simulating the orders the Royal Navy had. Only the capital ships may close and engage, because they were the only ships with the armaments and armor to withstand an attack. If you want to see the proof, play just the tactical battle pitting the *Bismarck* against the cruisers *Norfolk, Suffolk* and *Dorsetshire*. Sending these ships to attack is suicide and bad tactics.

"If the player follows the historical route, he will often avoid battling the 'Swordfish Patrol' until later in the game." Since the *Bismarck* can put into one of four ports to end the game (Bergen, Brest, Naziere and Ferrol, Spain),it is possible to avoid encountering the patrol entirely.

It was a pleasure to read the *Dreadnoughts* review. While it is presently available for the Apple II family, we will be coming out with a Commodore 64 version within the next two months.

William E. Peschel
Avalon Hill Games

Ed.Note: The article also refered to the fact that there is a bug in the program by which the game occasionally deletes superstructure damage. In Mr. Peschel's orginal letter he contested this observation by our reviewer. However, later he informed us that we were correct and that the defect does indeed exist (our reviewer had simply been the first to find the bug). Mr. Peschel indicated that in months of playtesting, the bug was never reported and that, co-incidentally, Avalon Hill is getting ready to revamp their playtesting procedures. Good for them!

□ □ □

NEXT ISSUE: SPORTS

In our last issue we reported on a replay of President Elect which was reported in CGW 1.1 (November 1981). We were amazed at how accurate our replay of the then-future 1984 election turned out. We pitted Ronald Reagan against Walter Mondale and the results of the state and electorial votes were perfect. The popular vote was off by 4%. The following letter comes from the designer of President Elect.

Dear Editor:

I wish to thank you for the short observation on **President Elect**'s predictive abilities (at least with respect to the election just past). Of course, I had made the same observation myself and gotten quite a bit of sympathy telling people that I had shown myself to be the best forecaster in the country and hadn't been interviewed by any of the networks, major (or even minor) newspapers, or even the National Enquirer (which is into crystal ball stuff in a big way).

Needless to say, your blurb will now be attached to my resume, and the more keen employers may conclude that I may be some sort of genius, which of course plays right into my hands. . . Maybe I could go to work for the Republican National Committee, or better yet, Rep. Kemp's campaign staff (I could wind up in the White House, and use that as a stepping stone to elective office. . . oh, excuse me, my latent megalomania got the best of me).

If you'd like to make concrete suggestions on my revision, I'd be happy to contemplate them. . . I do have a lot of ideas I'd like to incorporate, including:

- Vastly improved graphics, in speed and variety. Included would be blow-ups of each region, with text summaries of the situation in

Continued on page 37



CARRIERS AT WAR: A Review

by Bill Nichols

Name:	**Carriers at War**
Type:	**Wargame**
System:	**Apple, C-64**
Price:	**$50.00**
Publisher:	**Strategic Studies Group 1747 Orleans Ct. Walnut Creek, CA 94598**

Note: Carriers at War is available for both the Apple II (64K) and Commodore 64. This review is based on the Apple version of the game.

The Japanese raid on Pearl Harbor brought America into WWII. That raid destroyed a large part of the U.S. Pacific Fleet. However, the American carriers were not present and thus avoided damage. In the four years that followed, the war in the Pacific was largely decided by five carrier battles. *Carriers at War* is a new game from Australia which covers fleet carrier operations in the Pacific between 1941 and 1945.

DESCRIPTION

In *Carriers at War* (CAW), players control naval forces and land-based aircraft in one of six historical scenarios. The first scenario, "Pearl Harbor", is actually a tutorial exercise for the new player. The other five scenarios are "Coral Sea", "Midway", "Eastern Solomons", "Santa Cruz", and "Philippine Sea". The game is played on a map of 84 by 72 hexes with each hex being 20 nautical miles across. Unlike most computer wargames, CAW is not played in turns but instead uses accelerated *real time* resolution of movement, search, and combat. The player can interrupt the clock at any time to status his forces, review search and combat results, and give or change orders to his forces. The player's role is that of the commander in charge of a naval task group or land airbase. Because a side may include more than one task group or airbase, team play is possible with each member controlling a single task group or airbase. The computer can even be assigned forces on the player's side, thus teaming up with the human to defeat itself.

The physical components of the game are impressive. CAW comes in an unusual "box" which is actually more similar to a record album. When closed, the folder is only a quarter of an inch thick. Don't let that fool you, though. Inside is a double-sided disk, a player's manual, a design manual, and three player aid cards. Two of these cards are battle maps for the scenarios, while the other card shows the game menus and information on configuring the game to the specific computer system being used. The double-sided disk contains, on one side, the game program (which can be backed-up once) and, on the other side, a scenario disk (which can be copied as needed).

MECHANICS

CAW is a completely menu-driven program. When the player is not accessing the menu, the game situation changes in a real-time manner. Movement, combat, and search all occur simultaneously. The player can enter the menu at any time. It is through the menu that the player obtains status of his forces, reviews battle results, gives orders to his task groups and air squadrons, and receives sighting reports. This can be an intimidating procedure, as there are more than thirty menus available. The menu levels are in places up to six deep, and it is not difficult to get lost. Fortunately, a lot of thought went into how the menus are structured. With practice, the player quickly learns how to move from item to item.

The meat of the game lies in three "action" menus which allow the player to give task group orders, squadron orders, and airstrike orders. Task groups can be ordered onto a particular *heading* and *speed*, or they can be assigned a *destination objective*. The objective can be either an enemy base or task group. Once the task group has been given its orders, it will move under computer control until it is given new orders, or it reaches its destination. Task groups can also be assigned specific missions. These include *strike, support, escort, transport*, and *refueling* missions. A task group with an escort mission, for example, will move with the command task group and provide anti-air and anti-submarine protection.

Air squadrons can also be ordered to ready themselves for a strike mission, with a squadron in ready mode being able to prepare and launch a strike more quickly than a squadron which is unready. A squadron in ready mode will however, quickly become fatigued. And, when *fatigued*, a squadron takes *more* time to prepare a strike. Fatigue can only be reduced by allowing the squadron to rest. Squadrons can also be ordered to transfer to a land base. Transfer is an emergency measure only and should only be used to evacuate aircraft from hopeless situations.

The third "action" menu is the *Set Strike Routine*, which allows the player to order airstrikes. Airstrikes can be launched against port facilities, airbases, and enemy task groups. To launch an airstrike, the participating squadrons must first be readied. The length of time required to ready a squadron depends on the squadron's fatigue status and whether or not it is prepared. As soon as the squadron becomes readied, it will launch and proceed to the target. It can take from twenty minutes to three hours to prepare and launch a squadron.

Squadrons will proceed independently to their targets unless the airstrike has been assigned as *cohesive*. A cohesive strike is necessary for the participating squadrons to provide support to one another, but it takes more time for a cohesive strike to form. Once an airstrike has been ordered, the



squadrons will ready, launch, fly to the target, conduct their attacks, return and land without the player's intervention. While nothing prevents the player from launching an airstrike which will return to base after dark, it is not a good idea to do so.

On occasion, when setting up an airstrike, the player will be given the option of conducting a *strike-transfer* mission. This is a special airstrike mission which allows the participating squadrons to recover at a friendly airbase, rest overnight there, and return to their home base the next morning. A strike-transfer mission essentially allows squadrons to conduct strikes at beyond normal range.

Fighter squadrons which are not assigned to airstrikes and are not in a ready mode will be assigned automatically to combat air patrol (CAP). CAP is assigned entirely by the computer. The player must be careful to leave sufficient unassigned fighter squadrons to defend his task group.

Combat occurs whenever opposing task groups are in the same location and when airstrikes reach their targets. Airstrikes may also attack targets-of-opportunity that they sight on their way to their designated target. The player is advised that combat is occuring by a flashing cursor on the map display and a beeping from the speaker. Although faithful to the point of view of the game, the combat resolution display lacks flash and will be a disappointment to the player who wants to "see" his bombs exploding on the flightdeck of the enemy carriers. The only way the player can determine how much damage he had done to the enemy is to examine his sighting reports. There he will be told the approximate composition of the enemy forces and how many ships have been damaged or sunk. The sighting reports are, however, unreliable and frequently overstate the amount of damage done.

COMPARISONS WITH "CARRIER FORCE"

Carriers at War invites comparison with SSI's **Carrier Force**. The two games cover the same topic at essentially the same scale. The two games are, however, quite different.

Carrier Force is structured with one hour game-turns and definite phases of activity giving the player more control over the details of the game activities. For example, in **Carrier Force** the player can change the composition of his task groups. In CAW, the task group's composition is established for each scenario and cannot be changed during the game by the player. **Carrier Force** requires the player to manage the details of arming aircraft, flying them to their destination, landing them, etc. The player is relieved of this bookkeeping responsibility in CAW but, on the other hand, is at the mercy of his computer controlled "air operations officer".

Combat is flashier in **Carrier Force**. On the other hand, *Carriers at War* includes a bonus feature completely absent in the SSI game; the ability to create customized scenarios. CAW features a Game Design Kit which allows one to custom design ships and aircraft, create maps, and setup a scenario situation. The Designer Manual includes instructions for creating a "Raid on Ceylon" scenario, pitting the IJN against the Royal Navy in the Indian Ocean.

WEAKNESSES

Carriers at War is not, however, without its weaknesses. I have already mentioned that the player who likes flashy combat resolution will be disappointed. The complexity of the menu system, even though well designed, can result in the player getting lost in it. The documentation, although quite good, should have provided more information on the relationship between fatigue and aircrew efficiency. Because of this lack, the player will often not know how long it will take to prepare an airstrike. More than once I have found it necessary to abort strike preparation because the ready process dragged on so long that the aircraft would have found themselves landing in the dark. The need to give airstrike orders to each squadron individually can make for a lot of work in the larger scenarios. It would have been nice to have a feature where the player could simply assign a target, and the computer set up the entire airstrike from available resources. Finally, CAW uses high-resolution screens for both its maps and text, making a good quality monitor essential. The displays will be unreadable if an old television set is used as a monitor.

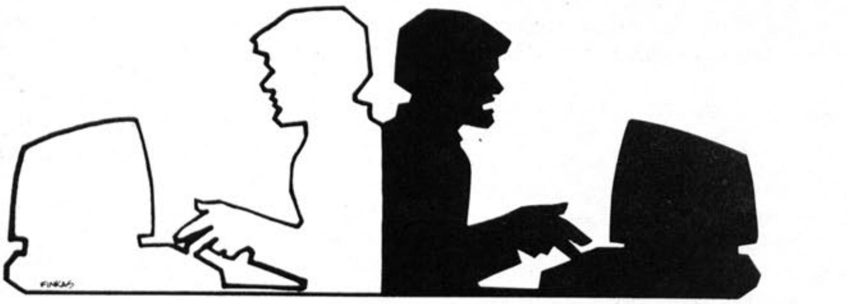
SUMMARY

Carriers at War is the best game available on World War II carrier operations. It is, perhaps, the best wargame of 1984 on any topic. Any gamer with even a passing interest in the Pacific War will want to add it to his collection.

Ed. Note: Ultimately the question of "best" in this situation becomes a question of taste. The differences between CAW and CF are, as Mr. Nichols points out, significant. Our mail is split as to the relative merits of the two games. Some of our readers are disappointed that CAW does not display on-going combat resolution (a basic feature in CF). Others are delighted with CAW, especially with its scenario design option.

While the true hard-core wargamer will end up buying both; for many, the question becomes which one? Our answer?. . . If you want to play the role of Operations Commander but still want to feel like "you are there", then CF will be more to your liking. If, on the other hand, you really want to experience the challenge of directing the course of Pacific carrier battles the way the Operations Commander actually would have experienced them (i.e. in a situation room dozens or even hundreds of miles from the action; getting reports and issuing orders based on those reports) and can live without actually seeing the action as it occurs, then CAW will strike your fancy (and you also get the exciting scenario design option).

WAR IN RUSSIA: Case Blue Replay (PART 2)





In our last issue we began a replay of the Case Blue Scenario of WAR IN RUSSIA. Here is the second half of that replay. The German player is Jay Selover, a contributing editor to CGW and well known wargame writer. The Russian player is Kirk Robinson, assistant editor of CGW and a veteran of numerous wargame campaigns.

THE RUSSIAN — KIRK ROBINSON

Sweat pours off my brow as I rise from the keyboard of our Apple II with quivering but as yet unbent knees. My ordeal has been declared officially over and the threatened relocation to Burbank has been avoided. A series of very fortunate choices and the limited effects of some very poor ones have happily led to my survival. To accomplish this result has demanded the use of every trick and strategem which I could devise or borrow (read as steal).

This being the final report on the cruel and vicious attempt by the Nazi forces to bring about the destruction of Mother Russia, I am free to report the methods and specific techniques used to slow the German juggernaught. In general, these consisted in simply trying to insure that the Germans took only those hexes which I could afford to loose, and did so at as high a cost as possible. To accomplish this often required new variations each turn, but some remained constant or nearly so. Chief amongst these was the maintenance of a defense-in-depth, so as to limit the possibility of a major breakthrough and all of the potential danger which such would present. As the specifics of this have already been covered to some extent and are mentioned in detail by Jay, I will go on to other tactics.

The most important task was one of determining the probable direction of German drives and strengthening the target hexes as much as possible. The key to this is, of course, knowing which hexes are to be attacked and in *which order*. And, while this is often obvious from the strategic positions of certain units, you will hopefully recall that these are the very hexes that the Russians do not want to fall. This leads to some rather obvious problems; such as who cares how expensive you made a hex that you could not afford to lose.

By far, the easiest way to defend a hex is to manipulate your opponent into leaving it alone. Anyone can defend a hex that is not attacked. To do this, there are two standard methods: provoking your opponent into attacking another hex, or in some way to give him mis-information (a time honored Russian tradition) which leads him into other, less damaging directions. Towards this latter end, I began the game with a very open and informative demeanor; telling Jay the obvious mixed with small bits of "important" information. As time went on, however, I gradually increased another time honored behavior (this time of writers and politicians)—I lied.

Feint attacks, another and more acceptable form of military deception, proved to be of some utility. When attacking a unit, all of those attacking are disclosed to the enemy, so that a feint can serve a double purpose. Not only can you cause you opponent's attention (and hopefully some of his limited resources) to be misdirected, but you can exchange the nasty group of guards with which you attacked with an average or weak unit by strategic movement, which is not executed when your opponent can see it. This give you the threat of the units in one hex, and the use of them somewhere else. While this was done several times in our game, the overall effect was uncertain.

Not a valid military tactic, but rather a function of the game mechanics was taking advantage of the fact that units with experience level under 50 could gain five points of experience per turn to determine which units would be reinforced and how many reinforcements they should receive. I would, ideally, add just enough to a unit's strength to sent its experience to 49 points and, while this may seem a minor thing, it must be remembered that experience is as important as strength for determining a unit's level of performance. Indeed, this scenario can be seen largely as the pitting of Russian numbers against the German's much greater experience levels. The one other possible way open to the Russians, is to build Mech units (which, like the German units, have an initial experience level of 70). This is, however, difficult to do as they demand half again as many resource points to build, with each point of reinforcement often being needed to reinforce endangered front line units.

One rule that the Russian player should always keep in mind is to never totally abandon an entrenched position. If it has been out-flanked and rendered untenable, leave sufficient strength to so as not to fall in one turn. You have more manpower than the Germans have time!

Another rule is to concentrate your airpower. In this game I had all of my air points in one airbase for most of the game, with one other in the north having about a quarter of the planes for those turns in which I would actively bomb the hex outside of Leningrad. As an added bonus to this policy, the unused airbase units can be used to make a part of your line look better defended without having to withdraw defensive points from entrenched positions. This is because there is no way for your opponent to identify airbases when they are stacked with other units. They will also come back in one or two turns if destroyed. A quality which makes them the perfect buffer unit.

It may have occurred to some readers that I seem to have gone to extremes trying to find or develop methods of thwarting Jay's plans. Not so, I respond. It was Jay's ability to plan and execute devestating attacks which demanded that I misdirect these attacks when possible, and when not possible to make them as costly as I could.

These tactics, however, only worked when I was on the defensive. There was one place

on the map where Jay could always, for some no doubt diabolical reason, out-guess my intentions. This was the hex southeast of Leningrad, between the city and the Russian lines. I would sit back bombing and bombarding the unit in this hex as I mentioned that I would in the first installment of this article. Then, on the very turn in which I had ordered an assault across the Volkhov river, the worn unit would be moved out and a fresh one moved into its place. This would, of course, leave my assaulting unit to make a poor-odds attack across the river, getting itself thrashed in the process. While this did demand that he pull in fresh units, it further emphasized to me the importance of timing in WIR.

The final result, according to the computer, was a marginal Russian victory. This, though, could be misleading as it was only thirteen turns into the scenario, making the Russian handicap of 150 points that much more effective. Also, Jay's more deliberate, a-historical attack may have given the Germans the staying power needed to survive the coming winter. It must, however, be pointed out that the Germans have a more and more difficult time of it, starting in January of 1943. Those objectives not obtained by that time may well prove beyond their abilities if the Russians have not been sufficiently ground-up or denied needed resources. It is unclear whether Jay would have been able to have done so in the time remaining to him, due to the increasingly deteriorating weather conditions.

Facing the Nazi war machine in this scenario has proven to be a great learning experience and can be recommended to those who would like practice in defensive positions. After playing the Russians, my only regret is that it is impossible to do so in the solitaire version. But, for the hermits and recluses out there, its worth making a friend, if only to be able to the Russians in WAR IN RUSSIA.

THE GERMAN — JAY SELOVER

In our last episode, we played the opening month (four turns) of the summer, 1942 offensive. We have managed another two months of play (nine turns actually) before the constraints of scheduling have forced us to stop. This was none too soon, as far as I'm concerned, since October marks the beginning of the end for the German war machine. At this point, I can proudly claim a non-victory. Whether or not I avoided defeat (in a strategic sense) is, I hope, open to debate.

With this being the last installment of our story, it does not matter that my opponent has a connection to Computer Gaming World, I can bare all. My goals as we started the game were to make the German advance more broad-based and balanced than the historical thrust south into the Caucasus. My plan was to advance the front as a whole by two to three hexes, or by as many hexes as I could. As far as geographic objectives, I expected by turn ten to have captured Rostov; I hoped for Voronezh and Rzhev; and I thought about but didn't really expect Moscow. In my two practice games against the computer, I stopped at turn ten and had captured Rostov easily in both games, captured Rzhev and Voronezh each in one game; and captured Moscow in neither one. In the thirteen turns that Kirk and I played, I took only Rostov and failed to take either Voronezh or Rzhev (let's just forget about Moscow). From this point of view, I either lost or I proved that Kirk is more worthy an opponent than the computer.

Based on historical considerations, my performance also does not look very impressive. In October of 1942, the Wehrmacht had culminated their breakthrough with tremendous territorial advances in the south, and were poised to strike at Stalingrad. However, in my defense, what did all of that gain them? My feeling is that the position of my German forces in the game is better for prolonging the war than were the historical positions. The only way to answer this contention is to finish out our game to see if I really have avoided the vulnerability which the Germans created for themselves.

With this kind of prelude by way of rationalization, I'm sure that you are wondering

Continued on page 38

STRATEGICALLY SPEAKING



Strategically Speaking covers strategy game tips, including tips on wargames, sports games, economic and other "real life" simulations, and classic style games.

DISCLAIMER:The tips printed in SS are those of the authors. We try to avoid printing tips the don't work, but we cannot playtest all, or even most of them. So, let the player beware.

We encourage you to share your strategy game tips with others. Tips can be mailed to Strategically Speaking, c/o Computer Gaming World, P.O. Box 4566, Anaheim, CA 92803-4566. Try to keep tips under 250 words if possible.

REFORGER '88: Warsaw Pact Player

Drop your parachute regiments with an eye to interdicting NATO supply units. Careful positioning of air drops in Worms, the hex southwest of Mainz, and along the northern autobahn to Seigen will create ZOC's that will eliminate supply units due to arrive in those areas on the subsequent turn.

A drop in the evening of May 9th (turn 4) will dramatically effect NATO units hoping to restore supply after the disruptive effects of refugees upon forward units. The effects of such a drop can be maximized if employed in conjunction with the declaration of Chemical Warfare. In the planned turn of the air drop, you should commit all available aircraft to air superiority in order to eliminate or at least minimize the presence of NATO interceptors in the drop zones.

Given the mechanization of these airborne regiments with BMD fighting vehicles, they have the punch, protection, and speed to fend for themselves for several turns. The NATO player will be forced to pull units out of his line of arriving reinforcements to deal with their presence. Even if never dropped, the threat of their use should serve to keep strong NATO contingents tied up in rear area security.

Doug Dery, Denver, CO

□ □ □

FIFTH ESKADRA

A programming anomaly in FIFTH ESKADRA can be taken advantage of by the clever player. A taskforce or submarine with orders to *Shadow* will attempt to maintain contact with enemy taskforces in the same area. If two such taskforces exist, then the shadowing unit will choose the one with the **lower taskforce ID number**. The game begins with the Kittyhawk taskforce being shadowed by both surface ships and submarines. Using the *Divide Taskforce* command, these tattle-tails can easily be shaken off. With a little luck, the inevitable destruction of the Kittyhawk can be delayed long enough for the American player to make its loss worthwhile.

Bill Nichols, Newark, CA (Designer of Fifth Eskadra)

□ □ □

SUNDOG 2.0

Since the space pirates will not attack unless cargo is being transported sublight between planets, the following steps will give you an enhanced ship for fighting, all the money you will need to fulfill your contract (500,000 credits), the locations of cryogens, and the best buys of goods needed to fulfill the contract — all within four hours of starting a new game. *Slip code hides the specific locations for those wanting general tips only.*

1. Completely repair the ship at home port and locate the colony.
2. Fly to *DMKHZG* system. Buy at least 15 scatterguns, a concentrater and and autoslew.
3. Fly to *FKNPX* system and sell scatterguns for 4000 credits per gun.
4. Fly to *VNQDLDC* system and buy a ground scanner. This lets you land directly from orbit or travel between any of a planet's cities.
5. Fly to several planets with multiple cities (*FKNPX I, MDV RGNNS,* or*EDQQ*). Visit city exchanges, carefully noting prices for common goods so that you can buy low and sell high.
6. Use the system, planetary, and city teleportation devices to visit all 50-plus city exchanges.

Ronald Wartow, Chevy Chase, MD

□ □ □

LORDLINGS OF YORE

One of the most important techniques in LOY is the use of the Necromancer's spells. Most of your time in this game is spent "in the dark" concerning enemy troops and terrain. You must therefore glean as much information as possible from the effects of the spells you have cast.

In the early stages of the game, the Necromancer seems of little use since you are not too concerned with where the enemy is at that point. But, wouldn't it be great if you could discover where an enemy castle is located, without having to move any of your units or spend any gold? Sounds impossible, right? Think again! The rules tell you that a fog spell won't work on castle squares. So, what happens if you try it? You're told by the Necromancer that his magic won't work there. Bingo... you now know where one enemy castle is located and can plan your strategy accordingly.

Now, with average luck, you should be able to find at least one enemy castle in the first five turns by concentrating upon the center nine squares of each shire. Beware, though, of the one fault in this strategy: fogs won't work where other fogs already exist, nor will they work on a maelstrom square. So, don't assume too much. Print a map at the end of the turn. The map shows all storms, fogs, etc.; you can save a spell by checking this first. This is especially true if there are other humans playing, as you will not be the only one "fishing" for castles.

Most other spells in LOY have similar "reverse" uses, so try them out. Every clue you receive in this game is important, so make notes and print lots of maps."

Jon F. Baxley, Softlore Corp.

□ □ □

FIGHTER COMMAND: Luftwaffe Player

Concentration of forces, intelligent raid routing and timing, and patience are all essential ingredients of a successful Luftwaffe strategy. Raids in the Southampton area, for example, should use Cherbourg and Le Havre as their assembly areas, so that *11 Group* squadrons based around London will have less chance of catching them before they return to base. When conditions are favorable (good weather), concentrate all available forces in one area by scheduling a series of raids, starting with one or two medium sized, high altitude "bait" bombing raids which are heavily fighter escorted. These leading raids will certainly be intercepted, but the intercepts may be ineffective and costly to the RAF. They should draw most or all of the fighters and patrols based in their area. The second wave raids (unescorted or lightly escorted) then come in at minimum altitude and bomb the airfields, hopefully catching a number of squadrons refueling. This tactic can be devastating to the RAF when radar early warning is lacking, and equally so for the Luftwaffe when it isn't.

Harry D. Blaker, Mason, OH

□ □ □

OBJECTIVE: KURSK

The German must take full advantage of his first turn since the Russian can only sit there and take it. Infiltrate! Attack his artillery. Keep his retreated units from being resupplied. I have seen as many as five Russian units destroyed on this turn alone.

Hold the ground at the edge of gullies. Let the computer attack you at half strength out of the gullies.

Block Russian entry hexes C and D before the reinforcements on turns six and seven arrive. It takes only a weak battalion-sized unit to keep an entire Russian Guards tank corps from entering into play. If you so desire and the spare units present themselves, let the Russian units enter one at a time and ambush them. Keep in mind that the Russians will still get full victory points for those units which never enter play.

The computer will often bring reinforcements right into the battle area in road mode, making them very vulnerable. Hit them with an air strike. This should disrupt them sufficiently so that they can not retreat. Then attack and destroy them.

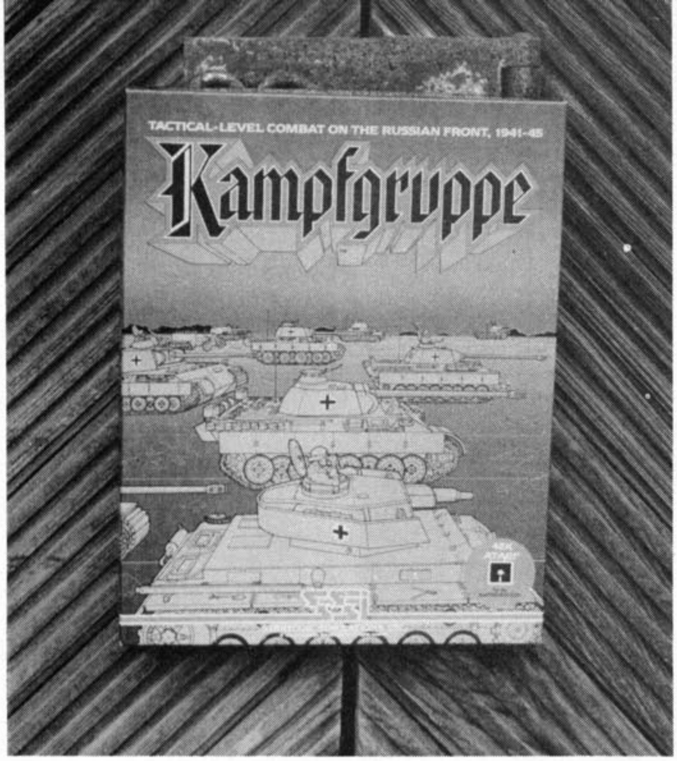
Experiment with splitting up German units. It often pays to take out the artillery and form seperate units with it.

William J. VandenBrook, Chicago, IL

FIGHTER COMMAND BUG

There is a bug in FC that allows the German player to create zero-plane raids. Taking advantage of this bug, the German player can create a raid with no planes, direct it into England, and thus have the ultimate decoy. To the English, the raid will be listed as containing about 100 planes.

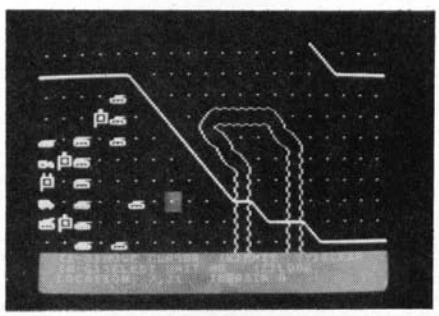
SSI has corrected the problem, also having made modifications to the radar bombing rules. You can return your old FC disk to SSI for a free update.



KAMPHGRUPPE: A Review

by Mark Bausman

Name:	**Kamphgruppe**
Type:	**Tactical level Wargame**
System:	**Apple, Atari, C-64**
Price:	**$59.95**
Publisher:	**Strategic Simulations Mountain View, CA**



Every now and then a truly superior game will appear. One that provides the player with a tool to exercise his imagination without having to follow a complicated game structure. Kamphgruppe (KG) is just such a game.

Kampfgruppe is a simulation of tactical-level combat on the Eastern Front from the years 1941 to 1945. You will have available to you over 45 different armored vehicles with each rated for range, shell size, shell penetration, gun accuracy, front and back armor, and speed, plus, non-armored weapons and infantry forces. It is played on a 60 X 60 scrolling map with each square representing 200 yards of terrain. Orders for both sides are given in an Orders Phase; movement and combat occurs in a Combat Phase. The combat phase is divided into four sub-phases which SSI refers to as pulses. Each pulse represents 30 seconds of time and, during each pulse, both sides will search, select targets, fire weapons and/or move. Since the Combat Phase is handled completely by the computer, the players may sit back and observe the results of their various engagements. A games normal length is 20 or 30 turns, which requires about 2 to 6 hours, but you may elect to play beyond that limit and you may quit any time. You accumulate victory points by destroying your opponents units. At the end of the game, if you have more victory points than your opponent, you win.

SET-UP

The game comes with four pre-designed scenarios or you may build your own. There are enough features under your control to allow an inifinite number of conditions in which to exercise your tactical abilities. As a learning scenario, I would suggest that you take the German side with the computer as Soviet, using a meeting type engagement in late 1942 with a German Panzer force. Let the computer auto-select weapons and auto-deploy the forces. When selecting map options, go with no river and a level three terrain covering. Huh... what did I just say? First, the computer may play either or both sides. Second, you may chose from six different types of battles including a meeting engagement, an assault, and a pursuit. Third, you may chose any one of eight time frames and have the weapons available during that time frame. Fourth, the German player may chose from a Panzer, Motorized, or Infantry type force while the Russian may chose from a Tank or Infantry type force. Fifth, you may select the weapons you want to use by spending points or you may allow the computer to select the weapons. Sixth, you may deploy the forces behind your "Start Line" or the computer will deploy for you. Finally, you may elect to have a river on the map and you may specify a level of terrain covering. A level five terrain will give you some forests, some broken ground, a few hills, and a city or two to play with. If you prefer more open ground then select a level two or three covering.

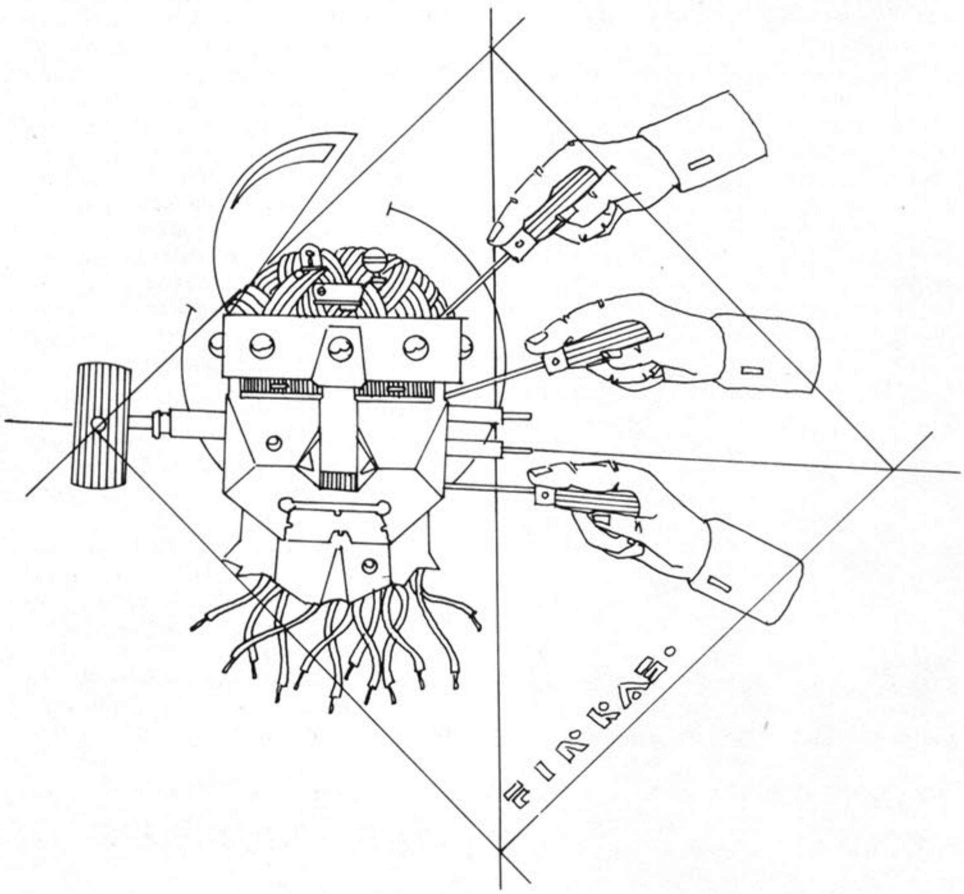
WEAPONS SELECTION

After you have become more familiar with KG, you will want to design scenarios that match particular types of weapons. If you option not to use the games weapons auto-select feature then you will be allowed to chose from a list of weapons selected according to the type of battle, the time period, and the type of forces you want. Each type of battle is allocated a certain number of selection points which you may spend on weapons. A meeting engagement will give the fewest points while an assault engagement will give the most points. When you "spend" selection points, the computer will allocate a combat formation letter, a unit number for each unit, and a specific weapon.

Continued on page 38

ROBOT SIMULATIONS
Tinkerer's Playgrounds

by Gregg Williams



Name: Robot Odessey I
Type: Robot Simulation
System: Apple II
Price: $49.95
Publisher: The Learning Co.
545 Middlefield Rd.,
Suite 170
Menlo Park, CA 94025
Circle 48 on Reader Service Card

Name: Chipwits
Type: Robot Simulation
System: Macintosh, Apple II
Price: $59.95
Publisher: Brainpower
24009 Ventura Blvd.
Calabasas, CA 91302
Circle 49 on Reader Service Card

Two recent products, Robot Odyssey I (for the Apple II) and Chipwits (for the Macintosh), have merged two gaming genres—the construction kit and the adventure—to create two incredibly vivid simulation experiences, the first simulating robots constructed from (digital) hardware, the second, from software. In Odyssey, you go "inside" a robot and connect AND, OR, XOR, and NOT gates to its sensors—you actually see the circuit work because wires with no signal in them are white, but electricity makes them glow orange. In Chipwits, you program a Macintosh-shaped robot by stringing together grids of domino-shaped pieces that represent individual statements in the robot's program; as the robot moves through a maze of rooms and obstacles, you can see each program step as it is executed. Both games are fun to play with, and both will keep you busy for many hours while you solve the "adventures" they place you against; however, Chipwits has some limitations that make it more suitable for people new to programming.

Robot Odyssey I

Robot Odyssey I (sequels are planned by its distributor) was designed for tinkerers age 13 and up. It purpose is to teach both specific skills (principles of digital logic and simulation) and general ones (problem-solving techniques). It does this by giving you a "robot construction kit and testing grounds," called the Innovation Lab, and an adventure for you to get through, Robotropolis. An additional three robot "worlds" interactively teach you the entire game without any reference to the printed manual.

Odyssey is a world of squarish, two-dimensional robots that have a thruster and a bumper on each of their four sides (for moving and detecting walls), a periscope (for seeing out of while inside the robot), an antenna (for transmitting signals to other robots), and a claw (for grabbing objects). Your on-screen character (controlled by the keyboard or, better, a joystick or mouse) can go "inside" the robot and connect inputs and outputs using simple logic (AND, OR, XOR, NOT) gates and integrated-circuit "chips." For example, if you hook the antenna to the left thruster through a NOT gate, you get a robot that moves right until it "hears" a signal. You can even design new chips that have both chips and gates inside them, then "burn" a copy of the finished chip and install it in a robot (or save it for later use)—wow!

The premise of Robotropolis is that, in your dreams, you fall into Robotropolis and must find your way out. By the time you get out, you will have solved over a dozen problems, expended much creativity, and learned a lot about circuit design—and all this through experimentation and discovery, not (yawn) conventional teaching. The problems usually require you to get some object or move to some location past a sentry robot that won't let your character past; you have three robots and must use one or more of them to do the work for you (the sentry will let them past, sometimes with you inside, Trojan-horse style).

The problems in the five-leveled Robotropolis start easy and end hard. For example, in level 1, the City Sewer, you get past a sentry robot by riding inside one of the three preprogrammed robots provided at the start of the game. In level 5, the Skyways, you have to "....search for a key to open the gate, sneak by a sentry robot, ride a giant disk drive to retrieve a new key, open a sonar lock by sending a pattern of antenna beeps, travel through an invisible maze, and .... push a series of eight buttons to reach the transport room. ...." Good luck—I'm nowhere near that yet, but I'm cursing as much as I do with an Infocom adventure!

Chipwits

What Odyssey is for hardware, Chipwits is for software. This game is for the Macintosh, but its distributor, Brainworks, should have an Apple II version finished by the time you read this; its creators, Discourse, Inc., have licensed a C-64 version to Epyx. Chipwits is very similar to Odyssey in several ways. You have a "robot construction" area called the Workshop. Once you have finished a robot, you put it in one of eight adventures (called Missions) and see how it does; the game keeps the average and maximum scores for each robot/mission combination, and much of the fun of Chipwits is improving a robot and seeing your score increase.

A robot stays on its mission until it runs out of fuel (supplied by "good" objects like a cup of coffee or a slice of pie), sustains heavy damage from "bad" objects (ElectroCrabs, Bouncers, and Bombs), or dies of old age. The game awards points based on the mission. For example, in the mission named Greedville, all the obstacles are "good" ob-

jects, but only two add points to the robot's score; Doom Rooms has only "bad" objects that you get points for destroying, but Peace Paths gives you points for eating certain "good" things and decreases your score if you destroy (rather than just avoid) the "bad" things. When the robot is on a mission, the screen shows a three-dimensional drawing of the robot moving through the room it's in, a status panel, and the section of the robot's program currently executing. The staus panel shows the values of four system variables (damage, fuel, distance-to-sighted-object, and current-key-being-pressed) and three "stacks" of user values (one each for storing move sequences, lists of objects, and numbers). The program panel also allows you to single- or slow-step the robot through its program.

In the Workshop, the screen shows one of eight 6-by-10 panel of instructions and "operator" and "argument" panels. To program your robot, you select a domino-shaped instruction from its panel, an operator (or verb) for it, and sometimes an argument (or object); you can then move the panel to another position or rearrange the true/false arrows that lead to the next instruction. Everything is done with the mouse, and you program in pictures. For example, a panel with an eye above a door means, "look for a door (in the direction you are facing) and execute an adjacent instruction based on what you see and the positions of the arrows marked 'T' and 'F'." The robot's instructions are contained on one main-program panel and seven subroutine panels that can be called from the main panel. Each instruction has 23 possible operators and up to 12 different arguments.

Chipwits is fun, but it has some moderately serious problems you need to know about. You can save up to 16 robots on the Chipwits disk, but you cannot create additional data disks. Since you also cannot copy the disk, you can never have more than 16 designs saved. A more serious problem has to do with the awkward way in which designs are saved: the changes you make can only be saved to the *current* robot, not to a different "slot" on the robot menu. Copying a robot to a new "slot" is a tedious, error-prone process that can take up to 64 steps. Also, the "Stats" menu item does not always work, and *any* trip to the Workshop erases its performance statistics, even if you don't change anything in the robot.

(In another arena, ignore the unattractive packaging and the overinflated claims that Chipwits is "an introduction to the principles of artificial intelligence." It is a much finer product than its exterior promises.)

The philosophical differences I have with Chipwits are more a cry for a more complex Chipwits II game than condemnation of the current product. At first, I thought Chipwits would be a great idea for a yearly contest (like *CGW* does with Muse's Robotwar game)—it could still be done, but my programming experiences with Chipwits leave me less than enthusiastic. In a word, the robots' programs are too simple to implement truly interesting survival strategies. For example, the single number stack limits the complexity of ideas the robot can "remember," and the subroutine panels can be called *only* from the main panel (thus making them less useful). An expanded Chipwits game with larger robot-programs, more operators and argument types, and more stacks (or some provision for user variables) would be a dynamite product. (Let me add that I speak as an advanced programmer; the product, as is, is quite appropriate for the beginning programmer.

Conclusion

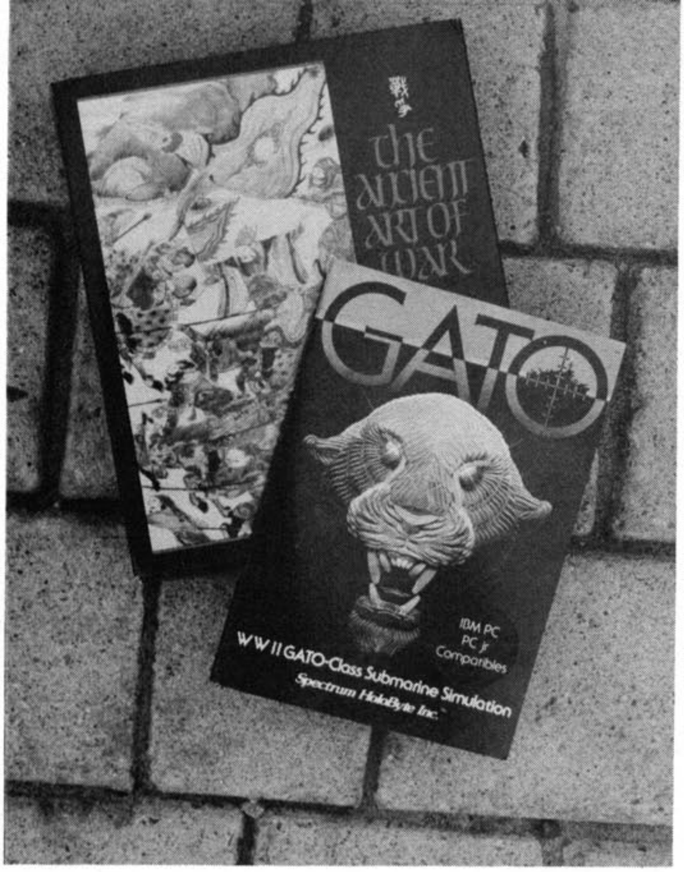
Just as there are many kinds of adventures, there can be many kinds of robot simulations, of which—I hope—Robot Odessey I and Chipwits are just the first.

Both games are innovative, are easy to use, and give good value for the money, though Chipwits may be too simple for people familiar with programming. I can recommend both of them highly.

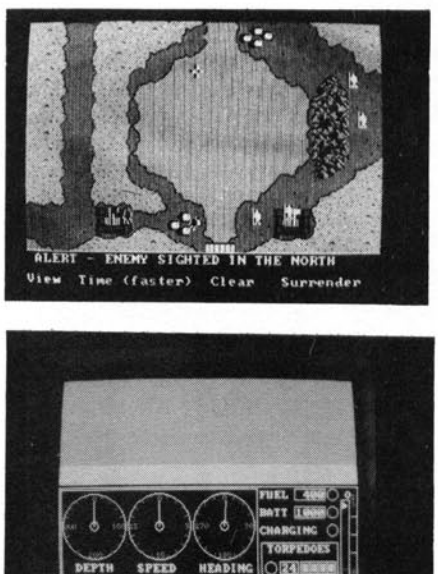
Ed. Note: The publishers of Chipwits have recently changed their name from Brainworks to Brainpower.

IBM GOES TO WAR

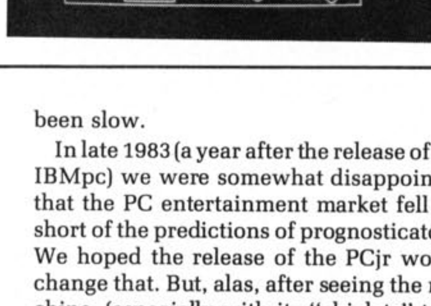
by Russell Sipe



Name:	**The Ancient Art of War**
Type:	**Wargame**
System:	**IBM, PCjr**
Price:	**$44.95**
Publisher:	**Broderbund Software 17 Paul Dr. San Rafael, CA 94903-2101**
Circle 46 on	**Reader Service Card**



Name:	**Gato**
Type:	**Submarine Simulation**
System:	**IBM(128K), Apple(64K), Mac, Data Gen.**
Price:	**$39.95 to $49.95**
Publisher:	**Spectrum Holobyte 2006 Broadway Suite 301 Boulder, CO 80302**
Circle 47 on	**Reader Service Card**



Computer Gaming World has been committed to coverage of the three most popular personal/home computers: the Apple, Atari, and Commodore 64. We have always said that if a significant game market developed on any other computer, we would add it to our "stable" of machines-covered. Since its release in late 1982 we have kept our eye on the IBMpc. However, the development of a significant entertainment market for it has been slow.

In late 1983 (a year after the release of the IBMpc) we were somewhat disappointed that the PC entertainment market fell far short of the predictions of prognosticators. We hoped the release of the PCjr would change that. But, alas, after seeing the machine, (especially with its "chiclets" type keyboard) we were disappointed; and so was the public.

Then, in a dramatic move, IBM reacted to the underwhelming response from the public by revamping the Jr. into one of the best buys in computerdom. IBM took their turkey, replace the keyboard with a real one, expanded to a basic 128K configuration and, presto... their turkey became the Phoenix rising from the ashes. The response from the public was positive.

A combination of events including the rebirth of the Jr., the move of the computer game player into more sophisticated games, and the general domination of the pc market by IBM has all come together to create a growing and significant entertainment market for IBM. The third party vendors have taken note.

And that's where we come in. As long as the significant IBM game titles were relatively few in number (and then almost always a translation of a game from one of the other three machines we cover), we did not feel the need to add a fourth machine to our coverage. However in late 1984 that began to change. The third party vendors were translating more and more of their titles to the IBM and we began to see significant computer games that were exclusively IBM or were being released *first* on the IBM (this being the *real* test of a computer's strength in the marketplace).

In the period of just a few months we have seen the release of several significant IBM-

only (or first) titles. A sampling of these include *Gato* from Spectrum HoloByte; *The Ancient Art of War* from Broderbund; *Computer Diplomacy, Pro Manager, Ram!, Incunabula,* and *By Fire and Sword*, all from Avalon Hill. In short, the era of IBM computer gaming has arrived. And we are here to cover it. So, IBM, we welcome you to the CGW line-up.

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The Ancient Art of War and *Gato* have been getting a lot of play time at CGW recently. (*Incunabula* and *By Fire and Sword* arrived just before press time, but are getting some attention as well).

THE ANCIENT ART OF WAR

Broderbund has said that *The Ancient Art of War* (TAAW) is not a wargame. That's being picky, for it is indeed an excellent wargame IBM wargamers will want to buy. According to Dave Murry (who, along with brothér Barry, designed TAAW), "we wanted to make a game that would appeal to the general public, not just hard-core war gamers"; hence Broderbund's hesitation to call TAAW a wargame (they call it a strategy game). Dave goes on to say, "we wanted to combine action and strategy, with the emphasis on creative strategy over brute force." They have succeeded.

The game is based on Sun Tzu's The Art of War (a title familiar to the wargamer, not so familiar to the general public). The rulebook provides a good overview of Sun Tzu's precepts as well as a useful brief history of war through the ages. The packaging is beautiful, and gives one the feeling that this product is a computerized version of Sun Tzu's work.

There are eleven campaigns (read battles) preprogrammed; including such encounters as the Battle of Pharsalus, a Sherwood Forest scenario with you as Robin's band of merry men, and Custer's Last Stand where you are the bad guys (the U.S. Cavalry). But the really exciting thing about TAAW is that it is also a powerful game generator that allows you to set up any battle you chose, historical or otherwise. However, as we will see, there are some frustrations here.

There are three types of troops available: archers, knights, and barbarians. In something of a rock-scissors-paper fashion, each of these types has strengths or weaknesses depending upon which opponent type they are facing. Knights (with their armor) are great against unprotected barbarians, but fall easily to the arrows of the archers (the knight not being agile enough to avoid the missile attacks). While the archers can put a devastating attack on the knights, they are much less effective against the barbarians who have the ability to "sidestep" arrows much more readily than knights. So if you have uniform squads try to match your knights up against enemy barbarian squads, your archers against enemy knights, and your barbarians against enemy archers.

However, don't think that the tactics are that easy. Mixed squads are possible and a variety of tactical formations are available (again, you can design your own tactical formations).

There are nine terrain types (forts, villages, hills, bridges, rivers, shorelines, forests, flatlands, and mountains). The program also recognizes status of terrain (such as home ground, near frontier, contentious, etc.). Squads are monitored for fatigue and food. Marching and fighting increase fatigue, being too far from your supply sources reduce food.

The most exciting aspect of TAAW is the ability to create your own scenarios. You build the terrain, form the armies, set the goals, and even write an introduction to the scenario to be read by the player prior to play.

There is a problem with creating scenarios that are based on battles which occured after the age of sword and shield (i.e. in the age of gunpowder. All three troop types are capable of simulating normal unit types in pre-gunpower warfare (barbarians are "sort of" cavalry types). And archers can even do a fair job of simulating musketry fire. However there is no adequate means to simulate cannon fire. I tried creating a Battle of Waterloo scenario but was frustrated by the fact that nothing could be done to simulate artillery. Therefore a major aspect of that battle (i.e. Wellington's use of reverse slopes to avoid the withering effect of Napoleon's artillery) could not be simulated. For pregunpowder warfare, however, TAAW should allow you to recreate most engagements.

TAAW is a one player game. You will play against one of eight computer opponents (Athena, Alexander The Great, Gernomino, Julius Caesar, Genghis Khan, Napoleon, Sun Tzu, or Crazy Ivan). Each opponent has certain tactical and strategic patterns of behavior that are outlined in the rulebook. Crazy Ivan is the beginner's opponent (he does everything randomly and somewhat inefficiently). One wishes that the game would have made provision for two humans to play against each other.

Wargamers are constantly seeking the ultimate wargame. But, if they really admit it, what they demand from such a wargame is impossible to deliver. As for me, TAAW meets a lot of my expectations of an ultimate wargame and if it doesn't meet them *all*, it certainly comes closer than most. Great game!

GATO

Here is another winner. *Gato* is a real-time simulation of a WWII attack submarine. More than anything else, *Gato* seems to be a "Flight Simulator" for a submarine. Originally designed for the IBM, *Gato* is now or will soon be available for the Apple, Macintosh, and Data General.

Three-dimensional object perspective provides depth of field and realistic offensive and evasive ship movement. You play the role of submarine commander. At the beginning of each game you are assigned a mission from COMSUBPAC. Missions include, among others: convoy raiding, rescue missions, coast watcher resupply, seek and destroy operations.

Once a task is assigned you use a strategic map to plot your location and that of your assigned mission location. In higher difficulty levels you only see yourself on this strategic map. In lower difficulty levels you also see enemy ships and your own subtender. The subtender is important for resuppling and repair. A Captain's Log keeps track of your progress, ships sunk, and their tonnage.

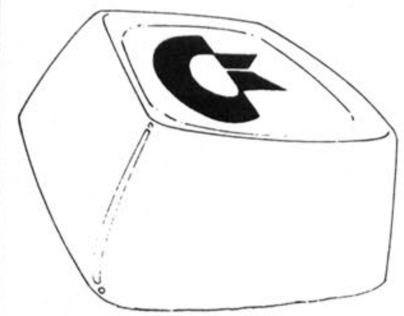
In game play you must make a variety of decisions that involve trade offs. For example, if you proceed on the surface you risk detection if you get too close to enemy ships. On the other hand, you travel much faster and use less fuel. Traveling submerged reverses the effects.

When you find your target(s) you must develop a plan of attack. Do you drive straight in for a close shot or do you position yourself for a longer, less accurate, but safer attack? You must also think about the angle of your attack. With the correct angle one spread of four torpedoes can hit more than one ship. Get the angle of attack wrong and you could find yourself facing a charging destroyer with only a bow shot between yourself and the deep blue sea.

If the enemy *does* detect your presence, either before you attack (because some fool junior officer messed up, no doubt) or after three freighters spout unaccustomed columns of flame, you will have to dive deep and avoid their sonar searches and depth charge attacks. Here, again, you have a variety of options: do you play dead on the bottom; or try to maneuver away, trying to escape the three dimensional depth charge patterns the enemy is using? Or do you get even more bold and attack the escorts?

As much as I like the game, I always look for more. An important aspect of submarine warfare was the potential for detection by enemy aircraft (which could bomb the submarine or relay information on its location). This aspect is completely ignored in *Gato*. Another minor point ignored by the designers is the fact that WWII submarines rarely made a direct forward "shot" (the only kind possible in *Gato*). Torpedoes were most often fired at an angle from the submarine. In fairness to the designers, however, to have included these two features would have greatly altered the basic design and scale of the game without adding much to playability.

Gato has happily married two normally opposing game qualities: ease of play and detailed strategy. *Gato* is a superb game that I will play again and again. CLEAR THE BRIDGE. . . DIVE! DIVE! DIVE!



THE COMMODORE KEY

Roy Wagner

COMMODORE is very serious about making the new C128 totally compatible with the C64. The C64 mode will include ALL things we might not like about the C64, but it will be all the good things the C64 is, and more. The 128K mode will make available 122K of BASIC programming RAM. It will add nearly every conceivable command that is currently missing to handle disk access (five times faster), sprites, colors, sound, and structured coding. It will include a cartridge slot that can detect a C64 cartridge and will use the standard Atari type joysticks. For anyone serious about business use, the CPM mode will accept the standard CPM 3.0 (IBM/34, Osborne, and KayPro disks) at a disk access rate 11 times faster than in C64 mode which will remain at it's current slow rate. I have seen the machine and it is GREAT!

COMMODORE — USER FRIENDLY

Now that Jack Tramiel has left Commodore to help (?) Atari, Commodore has expressed serious intention to support it's users. This has resulted in several favorable changes of attitude. The new C128 is such an example. Another is their dedicated support of user groups. This is just beginning with a special newsletter, buying services, and telecommunications network. There is also a $5 disk replacement policy in which they acknowledge that a "diskette may become damaged or worn out through continued use". They will replace the Commodore diskette for $5 and return it within 10 days. Not many companies offer such a deal as that. Thanks Commodore, for finally being good to your users.

COMMODORE SOFTWARE

In previous issues of this magazine, I have not said very much about Commodore software, as in the past there has been too much to say. Their early games were not much better than those available for the Atari (Sears) 2600 cartridge game units (some even worse). The only really great software item that had come directly from Commodore was not a game, but rather the educational package **LOGO** (better than any other version for a computer priced under $1500). Priced at about $50, it's worth twice the price.

A new program just released is equally sensational. It is called **SKY TRAVEL** and costs about $25. It is subtitled "A Window to Our Galaxy", and is a home computer planetarium dynamically showing the location of over 1200 stars, 88 constellations (major ones, with connective lines), eight other planets, deep sky objects, and Halley's comet. The sky can be displayed for a specified latitude, longitude, time and date (plus or minus 10,000 years from January 1, 1985). The display can then be automatically set to change in realtime or up to 64 times realtime, giving you a changing display of one hour in one minute. You can view the sky from any location on earth. The program will also identify any object displayed with a brief description of names and facts pertaining to that object. You can, finally, print any screen display, including special star charts. While, this is not a game, it is a lot of fun and is educational. The program comes with a 138 page, easy to read (and understand) manual. I highly recommend this program if you're into astronomy.

There are several new games and educational programs being released from Commodore. I will have more to say about them in future issues. I would surmise that the reason we see few good games from Commodore is that major game companies pay high royalties for good games and companies in general pay low royalties for educational games. Commodore is probably able to pay greater royalties for educational software, because good educational software sells hardware to schools which is good for Commodore and for us.

APPLES AND ORANGES - THE SAME?

I recently attended the West Coast Commodore Association conference in San Francisco. The two day conference covered all applications for the C64 and was very well organized. Two more major conventions are scheduled for Toronto and Valley Forge, PA, with one being planned for the Los Angeles area. I attended a presentation from MIMIC, the company that plans to soon release SPARTAN, a hardware box that plugs into the back of the C64 and lets one use existing Commodore hardware (disk, monitor, and keyboard unit) to run either Commodore or Apple software/hardware. It is quite impressive and well thought out as to the functioning of the hardware, and is said to be totally Apple II (+ and E) compatible. The price of $600 seems high, but there is a limited market. How many of us need both computers? If anything good is released first on the Apple, it is certain to be eventually made available for the C64. There are the few exceptions of companies that will not convert. (Why... we all still wait for Wizardry for the C64).

I think the unit is well designed and offers some good possibilities. It takes up less room than two computers, extends the range of hardware and software available, and as a total package costs less than a new Apple IIE. The product would be ideal for schools, making available educational software released for either machine.

(Disclaimer: This product has not yet been released from production, as of this writing. How well the production model performs will be determined in the next six months. My thoughts on this product should not be taken as a recommendation to buy, but rather some observations of it and it's potential.)

IT'S TRIVIA

TRIVIA games of all sorts are now available for the C64. Everyone claims to be the best, and each has some variation on play. The first is **FAX** from Epyx. Had FAX used joysticks, it could have been good. As it is, it is a key pressing contest between two players to provide the answer to a multiple choice question. You basically play one category, selecting from several available. The next is **FACT TACTICS** from Day Star. This one puts two teams against one another with each taking turns answering questions and moving around a board displayed on the screen. You enter your answer by keyboard. This game very cleverly accepts an answer that is misspelled or nearly right.

The most recent trivia game which I have played is **TRIVIA FEVER** from ProLine. This game is very well thought out and captures the best of the original Trivia Pursuit board game and expands on the idea to make a very enjoyable game. It has seven different categories with each team (up to 10) choosing five categories from which to answer questions. (You can handicap the super player teams by letting the computer choose the five categories). The teams play for a point total in each category. Questions are worth from one to three points, based on difficulty. After achieving the required total points in a category, the team is required to answer a two point category completion question. Until the completion question is answered correctly, you are given another one on each turn. After having completed all five categories, the team must answer a final two point question selected randomly from any one of the five categories. Questions are all answered verbally and matched with a screen displayed answer. The players decide whether point credit will be awarded. The many Play and Handicapping options make this game very enjoyable. An additional disk of more questions from the basic seven categories and an all sports disk are also available.

There are several other Trivia type games availabe, including one that uses special answer selecting controllers. There is a fine line that makes a question a trivia question rather than just a hard/impossible question. The thought that goes into selecting the questions for each game can make the game a winner or a loser.

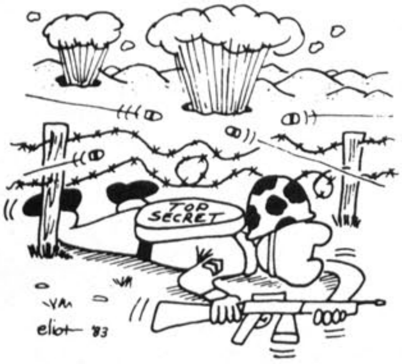
JUMPMAN MEETS THE WIZARD

Every so often a good "new" idea for a game comes along. Following quickly on it's

Continued on page 43

DISPATCHES

Insights From the Strategy Game Design Front



WHY PEOPLE PLAY

Dan Bunten
of Ozark Softscape

Every now and then it's useful to go all the way back to the beginning. No matter what field you're in you have some basic assumptions. In computer game design, you assume that people like to play games. Your problem is how to make them like your games better than your competitors'. Recently, however, I got interested in what made people like to play in the first place. I read a book by Michael J. Ellis (Prentice-Hall, 1973) titled *Why People Play* that impressed me so much I want to share some insights from that book with you.

The popular view of play is that it is an activity which has no real value. We play when our work (an activity that has a value) is done. We play to pass the time between work and more work. We entertain ourselves with things that have no useful function in our everyday lives. Play is often viewed as an escape from the mundane aspects of life. A few astute observers have allowed that play is a useful element in the development of children. Some educators have found play to be a necessary ingredient in learning, at least for children. But overall, the common view of play relegates it to the status of a non-functional behavior.

However, biologists, sociologists, and psychologists are not satisfied with such a simplistic definition. Play is too pervasive among humans and other species to be dismissed as a useless activity. Current scientific views hold that al behavior is motivated by some system or thing. A behavior that has no value to a species will eventually disappear. Evolution will encourage only those behavioral traits that are beneficial to the survival of the individual. Traits that are no longer useful require some energy to maintain and are thus a penalty to the species that keep them. Therefore, play must have a function or it would not have survived.

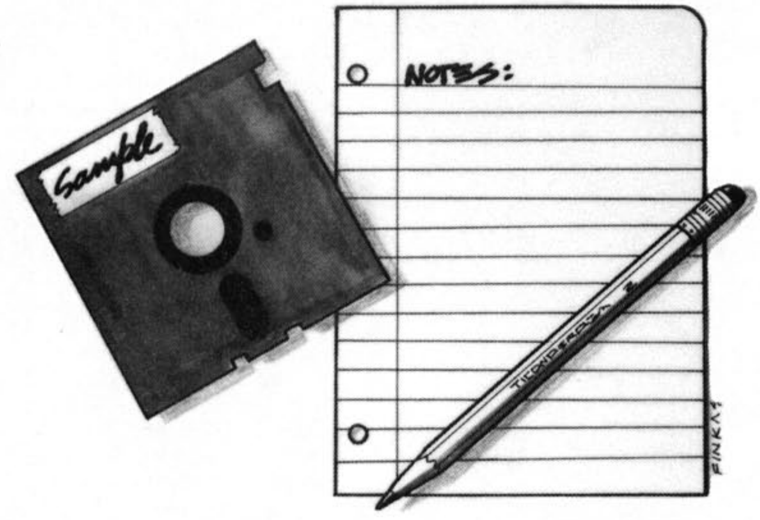
The factors that motivate behavior are called drives. These are usually divided into primary and secondary drives. Primary drives are those that work to insure an organism's survival from day to day. Secondary drives are those that are not needed for survival today but are useful for success tomorrow. Recent neurologic research has uncovered in all "higher" organisms a secondary drive to maintain optimal arousal of sensory and cognitive systems. By its very design, the brain will attempt to maintain a balance of awareness. If there are too many stimuli coming in, the brain will filter some out. If there are too few stimuli, the brain will listen more intently or even "invent" stimuli. However, the brain will also register the various levels of stimuli as pleasant or unpleasant and encourage the organism to seek more or less stimulation as needed. Higher animals can generate cognitive events and adjust sensory input levels to create arousal. They can also act to reduce their exposure to arousing events. These capabilities allow the individual organism to maintain an *optimal arousal level.*

This optimal arousal level is considerably higher than the quiescent state. Even when the organism has satisfied all of its primary needs it will still require more stimulation. As a survival tool, this drive to maintain an optimal level of arousal enables a species to adapt directly to conditions that require it to be flexible. To maintain optimal arousal, the animal is continuously pushed into engagements with its environment. Since only novel, complex or dissonant interactions prouce arousal, the animal is in constant contact with the changing and changeable elements of its surroundings. This behavior, since it is not motivated by any immediate survival need, is defined as play.

Play behavior has adaptive significance for the individual. It broadens the base of experience the individual has available to draw upon in meeting the challenge of new situations. The animals that survive their changing world tend to pass on their perdisposition to play. Thus, play becomes an inherited trait that influences the playfulness of the species. This drive to play thereby bcomes the fundamental learning mechanism of the species and the individual. Most inherited traits are automatic response patterns to specific circumstances. The truly amazing aspect of play is that it is not an automatic response but rather a drive to learn from the environment. What the organism inherits through its genes is not a solution to the problems it will face but rather a desire to look for solutions before the problems actually occur. Thus, the genes, do not specify how a kitten should catch a mouse. The genes provide a "drive to play" as a learning mechanism so that it is "the mouse which teaches the kitten the finer points of how to catch mice."

Play, therefore, is not a silly non-functional activity but rather the way evolution has produced an organism adapted for change. Humans are by far the most flexible and nephilic (new loving) animals on earth and thereby require the most play. We derive pleasure from novel and complex interactions with our environment throughout our lifetimes. So when you play you are not wasting time on a useless activity. You are repeating the history of evolution and training yourself to maintain a flexible response to your environment! I hope this reassures you as much as it did me!

Dan Bunten is the author of Computer Quarterback, Cartels & Cutthroats, and Cytron Masters; all available from Strategic Simulations. He is the lead designer of the Ozark Softscape group that wrote M.U.L.E. and SEVEN CITIES OF GOLD; both available from Electronic Arts.



The World of the PLAYTESTER

by Tom Cheche

OK, I'll admit it. After twenty-three years of wargaming I've never been more involved in the hobby, never enjoyed it more, and never felt more excited about what I do. For the past several years I have been continuously busy as a playtester, enjoying the excitement and challenge of being on the cutting edge of the hobby.

But don't be mislead. Playtesting is work.

At first glance, the role of a playtester would appear to be pretty clear cut—to test a piece of software to see if it works, to find the bugs, and make sure it does what is is supposed to do. However, it is not that simple. The role of a playtester can vary dramatically depending on the amount and kind of input sought by the designer and his developer, and by the knowledge and experience the playtester brings to the product that is being developed.

There are all kinds of gamers. Some play wargames for the sake of the game. Others are interested in the accuracy of the game as a simulation of the historical event. Still others see a wargame, if it is well researched and executed, as a sort of living history lesson; an opportunity to learn about a campaign or battle. And, just as gamers bring different points of view to a game, so do playtesters.

On the most basic level, a playtester's job is to find bugs and obvious defects in the program, and in the initial stages of development this is the first priority. In fact, I am told there are some playtesters who are masters at making programs crash. They get a new program and attack it with a vengeance, trying to find errors that aren't properly trapped. Once the program has largely been debugged, they move on to other projects and the more subtle playtesting begins. This is the most obvious aspect of playtesting. It is, to me, also the least interesting and rewarding. Happily, this phase is usually over very quickly, in one or two versions.

Every time a new version of the game is sent to the playtester it includes a new set of rules, and each time the rules must be read carefully to uncover ambiguities and contradictions. An important part of the job is to make sure the rules are clear and accurate, and if not, to suggest changes.

Once a program is running relatively bug free, a more subtle kind of playtesting begins. The emphasis then shifts to several other priorities; historical accuracy, playability, play balance, and the quality of the artificial intelligence. It is once this phase begins that a playtester tends to go in the direction that his particular strengths take him. If I know what I will be playtesting for enough ahead of time, I try to read as much as possible about the subject before the playtesting begins. If not, I do the reading while the playtesting is going on. I also try to restrict my reading to views of the battle that approximate the scale of the game, be it tactical, operational, or strategic.

The manufacturer may have a different assessment, but I tend to view myself as being a sort of creative conscious, the voice of the gamer. I am looking out for the gamer, airing his concerns. And it can be very gratifying to push long and hard for something in a game, see it in the final production version, and know that you were instrumental in having it included.

Usually you can anticipate what the crucial actions in a game will be, based upon your background reading. But, occasionally, you will encounter something that isn't represented in the game which you believe should be or conversely, something included you think shouldn't be. Then the fun begins.

The closer to the source a playtester works the more likely he is to see his suggestions show up in the game. If he only communicates through a person who administers the playtesting assignments, he can sometimes feel as though no one really cares what he has to say. If he deals with the person in charge of developing the game for the designer and has a good one-on-one relationship with the developer, he may be more successful when he argues for a change.

The best case, but the most rare, is for the playtester to have a one-on-one relationship with the game designer and the developer. This allows the playtester to input the "gamer's view" right from the outset. But it doesn't always happen. There have been times when I have playtested a game from start to finish and never once spoke or communicated with the designer directly.

The playtest disks that are sent out by the manufacturer are never accompanied by the same kind of documenation that is released in the final version. Playtest documentation often includes nothing more elaborate than a photocopy of a hand-drawn map. Sometimes entire sections of the rules are omitted and sent to you later. And those wonderful players' aids that we love to use are almost never included. In fact, many of those aids are created during the playtesting process. For example, during testing of *Fighter Command*, by SSI, I told the developer that in order to keep track of the status of the squadrons I thought a chart would be in order, and I casually mentioned that I had made one of my own. I was told to send it in so they could see what I had in mind. Well, apparently some of the other testers had the same suggestion, because when the final version came out it included a chart like the one I suggested, but it didn't look very much like the one I had designed. Actually, it was better.

Sometimes a suggestion can mean the addition of a simple screen display. In one instance, I booted up the first version I received, the drive went to work, and then apparently stopped cold. I thought I had a bad disk. I rebooted the disk a half-dozen times, and each time it stopped and just sat there for a couple of minutes. Turns out the program was reading in a very big batch of data, which took several minutes. The result was the addition of a message that told the player to hang in thee, this is going to take a minute. This sort of input from the tester to the developer results in the kind of changes and additions that can mean the difference between a good game and a very enjoyable one.

There is no dismissing the fact that being involved in this type of development can be very exciting. A special kind of excitement is created when receiving the first version of a new game. And when it is clear that you are working on a game that obviously is going to be a hit when it is finally released, it's like being in on a secret. You find yourself thinking thoughst like, "Boy, they're gonna LOVE this one." Of course, it makes it all a lot more worth while to be working on quality products. And it isn't all fun and games.

A playtester must stay in touch with the developer. He must communicate regularly, and the written word is perferred. Telephone messages have a way of not getting to the right person, and often no matter what transpires over the phone, unless you put in writing you can't be certain your input got through.

A playtester must remember that he is playtesting and not playing. There is a difference. Keeping pad and pencil close at hand you must take copious notes. Notes about anything that crosses your mind; a strange quirk in a screen display, a strange combat result, anything the program does that conflicts with what the rules say it is supposed to do. Write it all down and send it on to the developer, along with your comments.

You can't let yourself get too involved in playing the game early on, or you may be very frustrated. On more than one occasion, I have gotten very involved in playing a game, only to have a fatal bug surface and trash the game. And don't expect a lot of sympathy. "That's the breaks", the developer said, "you're playtesting."

And then, there are all the times when you would rather be out shagging fly balls, or maybe just playing something different for a change. You have already played the game more times than you care to count, you're getting worn thin, and you really don't feel like hitting it again. But the push is on, the final release is only a couple of weeks away, and the developer just contacted you and said he wants you to do the campaign game one more time, at the highest level of difficulty. We're talking work here, Bud.

In fact, there are many times when I am convinced that I will never play a game after it has been released because I have played it so many times during development. Would you believe playtesting *War In Russia* for nearly a year? And I wasn't involved on that one from the outset.

And you cannot know the joy that was felt when I got a phone call one day, months into the testing, informing me that errors had been found in some of the algorithms, rendering all of the previous results invalid. "We have to start all over again" I was told, right about the time I was beginning to think about wrapping it up.

Only when the time has come to start polishing the program for final release can you really play it with the notion of beating the computer opponent as thoroughly as possible. At this stage you are trying to find out if there are any serious problems with the artificial intelligence, and exactly how well the artificial intelligence performs. In fact, most of the time the final stages of the playtesting process are devoted to tuning up the artificial intelligence.

Human nature being what it is, I wouldn't hazard a guess as to the feelings of other playtesters about what they do. But for me, there is a great deal of satisfaction in completing a project on which I know I've done a good, conscientious job. And there is something else. There comes the time when you are told the game is ready for release and you know the project is just about over. You start to get a little itchy, because already you are wondering, "What's next?"

Tom Cheche is a playtester for SSI.

Most computer game publishers are interested in quality playtesters. If you think you have what it takes, contact some of the companies. In your letter of introduction be sure to detail your gaming experience (both computer and non-computer). Consider contacting the smaller companies as well (some of the larger companies may have a waiting list of potential playtesters).

We would like to hear about your experiences in being or becoming a playtester.



COME CAST A SPELL WITH ME

Innovative Adventure Designers Apply Here!

ROE R. ADAMS III

A flood of new products have been introduced recently into the market place that will allow the anyone to create his or her very own computer adventure game. Some of these programs have graphic capabilities, but most are strictly text generated. That fact is not necessarily a drawback, as Infocom has been notably successful in this genre. However, it is very difficult to design an interesting text adventure.

Almost every other text adventure game in the last three years has been a complete failure. Why is that? Infocom claims that text adventures are more intellectual and alluring to the player than graphic ones. Yet surveys have shown that the public really prefers colorful animated graphics to text screens for entertainment. How does one explain the phenomenal success of Infocom, and the absymal failure of every would be competitor?

The real secret to Infocom's vast popularity, which has never been told before, is that their programs succeed IN SPITE of the fact they have no graphics instead of because they are only text! It is Infocom's extrordinary depth in creative scenario designers that makes the difference. Every Infocom game breaks new ground in the art of game design. The craft has reached the level of an art form, primarily because of Infocom.

People flock to buy the latest Infocom game knowing they will be delighted with some unexpected new nuance or adventure concept. No other software house can boast a staff like Mark Blanc, Dave Liebling, Steve Meteksky, Mike Berlyn, or Stu Galley. Thus the core of a good game is talent and creativity. The superior Infocom parser is only a minor advantage to their success. If only clods used that parser, no one would buy the games. Actually, several companies have marketed games with parsers that were almost as sophisticated as Infocom's, but the games were so boring that no one cared. But there is hope yet for most people to use these new adventure design programs.

Synapse's new game, MINDWHEEL, has just such a parser, but is lightyears ahead of its competition. The program, while still just a text adventure, blazes a whole new frontier in computer game design. Synapse refers to this program as an Electronic Novel® .

Mindwheel blazes a whole new frontier in computer game design

The game is actually in two different mediums. One is the traditional computer disk, while the other is a hard cover book that accompanies the disk. The player is required to read the book first, study the marvelous graphic illustrations, and catch all the tricky clues buried within the book. While most of the game is standard adventure fare, the program really focuses around novel road blocks. The road blocks are strategically placed so that you must solve them to continue. Each roadblock involves a logic word game: guess the meaning of a riddle, finish the last line of a poem, or most amazingly, divine a long series of fill-in-the-blank words to complete a love sonnet. Each of these puzzles is new and fresh. While clues abound in both the game and in the hard cover book. The sonnet is, by far, one of the most difficult challenges seen in a long time. The game structure is truly module, with the road blocks serving as sentries baring entrance from module to module.

MINDWHEEL affords the player more intellectual challenge than the usual adventure game. The blend of disk and book draws the player deeper into an involvement with the game, thus offering a greater sense of realism and participation. What a breath of fresh air this game is!

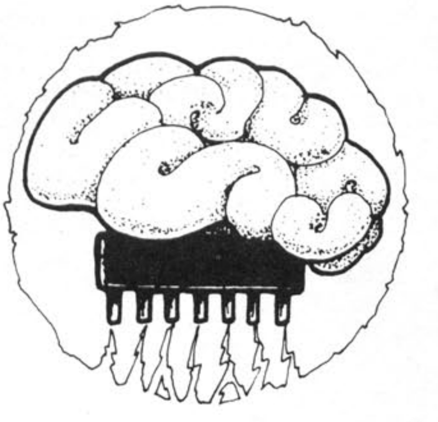
Two important aspects stand in the way of most would be designers: atmosphere and puzzles. Do not settle for mediocracy when you create a game. Carefully think out a general storyline or setting for an adventure. Go to the library and spend some time researching the period or local. It is the attention to realistic details that is one of the main factors that separate top games from the usual morass of boring programs. Dave Lebling of Infocom has always described himself as the Master of the Purple Prose. Anyone who doubts this has only to read the text in his new game SUSPECT. A person can close their eyes and feel one of Dave's rooms. The richness of his words paint ornate pictures of a room and flesh out the playing characters. Most new designers fail here utterly. They toss off brief, boring room descriptions and say "Isn't that interesting!?"

Likewise, a common trap that novice designs fall into is one of creating an obscure puzzle. TIMESHIP, Five Star's first offering, has many good elements to the adventure, but it also has a puzzle that falls into the obscure category. At a late point in the game, an item must be bought with a nickle, but there is no apparent money available in the game. There is, however, a change machine available. So where to find some other form of currency to put into the change machine? The answer lies in an ordinary book of all places. The player is somehow supposed to divine that he must "tear page out of book", "fold page", and then "insert the page into the machine." Out rolls the nickle. Now the author apparently intended this to be a difficult puzzle, but in fact it is logically absurd. Puzzles of that sort alienate players. Avoid this pitfall at all cost. Do not let your desire to be clever lead to unfairness for players!

Many readers of magazines like GAMES are puzzle freaks. They practically swim in a sea of mental agility and challenge going from word to picture to logic puzzles. If even a fraction of those skills were applied to designing a puzzle in an adventure game, the level of design competency would rise multifold.

The lesson to be learned is that innovation and creative abilities account for almost everything these days in game design. Years ago, it was the programmers that mattered most, as it was so technically difficult to produce one of these programs. Today, with the automatic authoring systems, nonprogrammers are equally able to write a high level computer adventure game. The opportunity even exists to create adventure games which might even be commercially saleable. The important thing to remember is that creativity and originality are the yardsticks by which your efforts will be judged, not the flash of your programs.

Designing a game can be one of the most rewarding things you have ever accomplished. The ohs and ahs of your friends will give you an immense satisfaction. Who knows you might be the next Steve Meretzky. □



THE SILICON CEREBRUM

HOW COMPUTERS LEARN

by Bruce Webster

My last "real" column was in issue 4.1, which should give you an idea as to how badly I've been neglecting this column. Actually, it's not all my fault — the editor has had to bump my column a few times due to lack of space — but, by and large, I am responsible for the column's infrequency.

That should change now. I've given up full-time software development for the time being and gone to full-time writing. It was not an easy decision to make, but it was a necessary one. And it means that I can now spend more time in software exploration, that is, in writing programs to test out different ideas — such as those found in this column.

□ □ □

Back in issue 4.1, I was deep into a discussion on *heuristic search techniques*, having looked at three *breadth-first* algorithms, each one more informed than the last. I concluded that column with the promise that we would "take a harder look at the performance differences between BFS (breadth-first search) and MIBFS (more informed BFS) and see if smarter really is better." You see, I had stumbled across problems with MIBFS which suggested that BFS, though less "intelligent", might really be faster and consume less memory. However, when I sat down to write *this* column, I ran into another problem. You see, it's been over a year since I worked with those algorithms, and, well, I've forgotten just what it was I discovered. When I figure out what it was, I'll write about it. While I'm doing that, you can track down issues 3.4, 3.5, and 4.1, so that you can remember (or learn) what I was talking about.

In the meantime, let's talk about something else. What's a major difference between a human opponent and a computer? Well, the human *learns* from his/her mistakes or successes, while a computer usually pushes ahead regardless of how things are going. However, computers can "learn" in some simple (and not-so-simple) ways. We're going to see how that can happen.

Let's look at a simple example, based loosely on **OGRE**, a very successful SF wargame from Steve Jackson Games (with a computer version coming out from Origin Systems). In OGRE, one side defends a command post (CP) with many different units: GEV's (hovercraft), infantry, artillery, and several types of tanks. The attacking side, whose mission is to destroy the CP, has only one unit: a massive cybernetic tank known as an Ogre. The entire game takes place on a hex map, with the Ogre entering on the south (narrow) end, marching north, destroying the CP, and heading south to escape off the same end by which it entered.

The game's simplicity makes it an easy one with which to do artificial intelligence (AI) experiments, especially if you let the computer control the Ogre. Let's look at a simple way in which the Ogre can "learn" to play a better game.

The Ogre has to choose a path from the south end of the board to some point within striking distance of the CP. Since it cán only move up to three hexes each turn, it must choose (each turn) the hex on which it wants to stop. It needs a simple *evaluation function*, f(hex), to choose which hex is best. The simplest evaluation function is:

f(hex) = kdist(hex,CP)

where

kdist(hex,CP) = 25 – distance(hex,CP)

In other words, for all the hexes within the movement limits, pick the one with the highest value of f(hex). This will move you directly to the command post...providing you're not blown up first. A good defender can usually destroy an Ogre which is coming straight in, so our computer needs to be a little more intelligent. Let's expand our evaluation function:

f(hex) = kdist(hex,CP) – defend(hex) + attack(hex)

We've put two new terms into f(hex). The first, defend(hex), is simply the sum of the attack points (firepower) that the defender can bring to bear on that hex. The second, attack(hex), is the sum of the attack points of the defending units that the Ogre could attack from that hex. As before, we pick the highest f(hex) for all the hexes within range (which is why we subtract the defend term).

O.K., we've expanded our evaluation function, but we need to make

one more adjustment. You see, we're not sure what comparative ranges of values the three terms have, nor have we defined their relative importance. The answer: add a weighting value to each:

$$f(hex) = w1 \times dist + w2 \times defend + w3 \times attack$$

We can now set *w1*, *w2*, and *w3* to reflect how much weight to give to each term. (Note that *w2* should be negative, since we're now adding all the terms together.) As before, we pick the hex with the highest value as our destination for this turn. Choosing different values for the weights will result in different strategies for the Ogre. A high *h1* will cause the Ogre to go straight for the command post; a high *w2* will result in a very cautious Ogre; and a high *w3* will lead the Ogre to aggressively attack the defending units.

Starting School

Let's say that we've got the game working, using the evaluation function developed above. We have some standard set of weights *(w1,w2,w3)* that we use throughout each game. We find that the computer plays well at times but, because of its predictability and single-mindedness, can be maneuvered into some nasty situations. How can we help it to learn to play better?

One way is to let the computer itself decide which weights are best. At the end of each game turn, after both sides have moved and fired, look at the relative success of that turn. Did the Ogre destroy the CP? Did it take significant damage? Did it damage or eliminate other defending units? We can then use the answers to those questions to modify the weights. If the Ogre is taking too much damage, then increase (in magnitude) *w2* so that the Ogre will shy away from heavily defended hexes. If the Ogre successfully attacked one or more defenders, increase *w3*. If the Ogre destroyed the CP, then increase all the weights to reinforce their "correctness." If, instead, the Ogre was destroyed, then decrease all the weights to make other adjustments more significant.

You'll notice a few things from this approach. First, the Ogre's strategy will change during a game, depending upon how things are going. Second, you can have the Ogre develop different sets of weights for different opponents. How does the computer recognize different opponents? Well, you could just have the human enter his/her name, but the human can always lie, so that isn't completely reliable. A better (and more general) approach is to see what units the defender selects and how he/she deploys them. The Ogre can then pull out a set of weights developed for that defense.

Enhancements

This approach is not, of course, perfect. One real problem is that the set of weights you have by the end of the game is biased towards the end of the game and may not work too well at the start of a new game. What we really need is not a single set of weights, but several sets, one for each phase of the game. For ExF1rlJsThis might be the "feel the enemy out" set, with an emphasis on caution and attack and little weight on heading for the CP. The Ogre would continue to use that set until some key event, such as the passage of so many turns, or after some amount of damage is inflicted or taken. Then another set would be chosen, depending upon the circumstances, such as an "edge your way around" set, a "push for the CP" set, and so on. Again, different sets of weights can be developed for different defenses.

A yet-more-complex method involves what we'll call scripts. Let's say we're starting a new game. The Ogre selects its starting weights *(w1,w2,w3)* and a starting script. The script is simply a list of adjustments; each adjustment contains three values to be added to the three weights. After each turn, we add the next set of adjustments to the weights. The result is that the weights (and, as a result, the Ogre's strategy) change during the script.

How do we create the scripts? Well, since this column is about learning, we'll let the Ogre create them for us. Start a script as all O's, which means that the weights would not change at all. Then, instead of directly adjusting the weights to reflect success or failure, we go back and adjust the script. If the success/failure is a minor one, we can just change the script entry for the previous move. If it's a major one, we can propagate the changes back several moves. By connecting scripts with different situations (such as "opening game where defender has lots of GEV's"), we can, indeed, have our computer opponent "learn".

Conclusions and Warnings

We've talked about some very simple learning techniques applied in some very simple ways. We need to recognize that learning takes time and practice. Your computer program is not going to become a top-notch OGRE player overnight (if, indeed, ever). There are, of course, short cuts. For example, you can give the computer a head start by directly creating weights and scripts yourself. And, if you're the computer's main opponent, you are going to be learning as well, so that the computer's improvement may be hard to notice.

□ □ □

Whenever I predict what I will talk about in the next column, I am usually wrong, so I am making no promises as to what you will see next. I *would* like some feedback on my column: what you like, what you don't, and what you most want to see. I've gotten some nice comments over the years, but generally you've been a quiet lot, which makes me wonder if this column is being read by anyone. If it is — and if you want to continue —please let me know! Feel free to contact me directly: Bruce F. Webster, 6215 Thorn St. San Diego, CA 92115. By bulletin board: (619)286-7838 at 300/1200 baud. By Compuserve: 75166,1717. By MCI Mail: 138-5892.

Bruce is the author of Sundog from FTL.

Atari Playfield

THE NEW ATARI COMPUTERS
Fantasy Comes True?

David Stone

A few issues back (August 1984, Vol. 4.4), I used the Atari Playfield to lament and writhe in public at trade paper speculation that Jack Tramiel, Atari's new owner, was planning on coming out with an Atari IBM clone. In that column, I scowled at companies whose contribution to computer gaming was to go with the pack, applauded Apple for making an exciting computer like the Macintosh NOT IBM compatible, and fantasized that it would be wonderful to hear that Atari had announced a computer with advanced gaming capabilities that no other computer on the market today could touch.

Well, if you have been reading the papers, you may already know that at the Winter Consumer Electronics Show, Atari revealed my fantasy computer and promised delivery in mid-April of this year. CGW staff was in attendance for the unveiling of new Atari line of computers that includes incredible features, incredible prices, and an incredible promised-delivery date. And, if Tramiel can deliver, that too will be incredible. But, Tramiel (as founder of Commodore International) has done the incredible before, so all Atari-philes have their fingers and joysticks crossed.

Gaming and The New Atari ST's

The new Atari computers are the Atari **130ST** and **520ST**. The specs on these machines are impressive. And, the most important question to us is, "Is the ST line going to be good for gaming?"

All features of the machines indicate a resounding "YES!"

First, at the heart of the ST's is the same 16/32 bit microprocessor used in the Apple Macintosh (the Motorola 68000). One of the big differences though between the ST and Mac is that the ST delivers color. For gaming applications, this powerful processor can mean high-speed, smooth-moving multicolored (512 colors) graphics and animation.

Atari has built onto the ST operating system (modestly named the TOS, for Tramiel Operating System) two major features for display and memory control: the GEM (Graphics Environment Manager) user interface developed by Digital Research and something called a GSX graphics kernel.

The GEM is basically a memory management system that will enable game programmers to design and manipulate display features such as pop-up menus (like the Mac's pull-down menus), windows, icons, a real-time clock, and a mouse controller with two buttons. To game players these features will hopefully mean that games on the ST will be easier to learn and play.

Instead of an ANTIC chip (the one that enables player-missile graphics in the 400/600/800/1200's), the ST's will use a GSX graphics kernel. This feature will allow game programmers to design and manipulate complex multicolored screens in a variety of ways. Games produced on the ST system could easily contain the most visually exciting graphics and animation ever produced on a personal computer.

The 130ST comes with 128K RAM while the 520ST has 512K. When you consider that your favorite Atari game takes up less than 64K, you'll realize that memory will not be a problem. If anything, programming code may get sloppy as programmers wallow around in all that RAM.

On-board ROM in both ST's is 192K. This is massive when you compare it to the 800's 10K ROM. The ST's also have a side slot for add-on ROM cartridges. This will be an important consideration for third-party game manufacturers seeking the higher degree of copy protection that a ROM cartridge offers.

Other important features of the ST's that indicate that they are designed for gaming are the two joystick ports. One of the ports is being specially configured to accept a mouse.

The ST's have three graphics and text display modes and a built in drawing software. As with the all computer graphic modes, the finer the resolution, the fewer the colors available. The *Intense Color Display* (ICD) mode offers resolution similar to the current (i)Graphics 8 mode, except the ICD offers 16 colors instead of just one and a screen area of 320 by 200 pixels. The *High Resolution Color Display* mode gives you four colors on a 640 by 200 pixels. And, get this, the *Monochrome Hi-Res Display* produces 640 by 400 pixels. These modes, combined with the speed of the 68000 microprocessor, should lead to the most impressive game graphics ever produced on a personal computer system.

In the sound department, things look (sound?) pretty good, too. First, the ST's have a three-voice sound generator (the current Atari's have a four-voice generator). However, the ST sound chip allows control of the "attack, sustain, delay, and release" (these characteristics help us tell the difference between an oboe and a piano just by listening). The range on the sound chip is from 30 hz (like an earthquake rumble) to higher than the human ear can hear. This will mean gmes with both life-like music and realistic sounds.

Another interesting feature is a built-in MIDI (Musical Instrument Digital Interface). The MIDI is like a special modem port that lets a computer control electronic musical instruments. The MIDI is constructed to an industry standard so there already exists a variety of synthesizers ready to plug into the ST's. The ST machines have a built-in RS232C port for connecting modems (or

Continued on page 39

The Name of the Game

Stalking the Wild Concept



Jon Freeman

Good games rarely happen by accident; they are planned—*designed*. Many games never reach the design or blueprint stage because they lack a clear concept: a preliminary floor plan, as it were.

Nearly all good games — and even most bad ones — start with an idea. Sometimes it's no more than a visual gimmick — a rotating planet, say, or an odd way of changing colors — but few games are actually *designed* around so simple a device. The normal starting point is the subject of the game: taxes, the stock market, pirates, planetory colonization, pinball, war in space, war on the Eastern Front in WW II, war in the Age of Sail, dungeon exploration, fantasy chess, a repeatable murder mystery.

Nowadays, publishers are looking for a *high concept*: na idea that is both simple and intriguing. Like a good ad, it should, in a few words, communicate its essence and immediately interest a game player — and buyer. "Computer pinball" is a high concept (at least if you're a pinball fan). *Alien Garden* and *Yar's Revenge* were not.

A good topic (or high concept) is not guarantee of a good game; nor is it absolutely essential. Perfectly good games have been made of perfectly awful ideas, but why start with a handicap? It's easier to do an interesting game about pirates than about a pencil factory.

The Habitat of the Species

Contrary to popular belief, good game ideas are not hard to come by. Aspiring writers are forever being urged to "write about what you know." Similarly, game concepts are readily drawn from subjects you know or like. Eric Hammond turned his enthusiasm for basketball in general — and two of the sport's premiere practictioners, in particular — into *One on One*. Bill Budge produced two successful computer games out of his fondness for pinball. Elements in games as disparate as *Archon* and *Ultima* were inspired by experiences in the Society for Creative Anachronism.

Books and movies are, of couse, a gold mine of ideas. It's a short step from old monster movies to the basic idea behind *Crush, Crumble & Chomp!*. Consider using your favorite genre — mysteries, science fiction, historical romance, soap opera, whatever — as game material. On the other hand, if you can't tell Robert A. Heinlein from Robert E. Howard, *Glory Road from Damnation Alley*, or *Forbidden Planet* from *Planet of Horrors*, your notion of a "sci-fi" game will probably make me gag. (Head for Hollywood, instead, where ignorance of the field is not considered a liability, and turn your idea into a TV script.)

Nor are you limited to generalities. You can't very well steal your favority novel, lock, stock, and *denouement* (since authors are picky about things like that), and haven't you ever thought about transplanting a favorite character from one book into the setting of another (e.g., Robinson Crusoe on Mars or *A Connecticut Yankee in King Arthur's Court*)? Rewriting the ending? (Aren't the best, most involving games rather like books with an infinite number of possible endings?) Writers have been making hay of this kind of thing for centuries; there's no reason you can't do the same.

A primary source of good game ideas is an obvious — in most cases, *too* obvious — one: other games. No, I'm not suggesting cloning; I'm talking about inspiration, not plagiarism.

Pick a few games at random, and play around with them in your head. If you spot a flow, "fix" it, and see what happens; if you find a feature or technique you really like, try to imagine it in a different game. Change the characters or setting; add features or expand the context; reverse roles or goals; interchange parts from different games; add a computer element (not just an opponent) to a board game. Instead of picking up dots, put them (or something else: pipes, tracks, stripes) down, or have them change color or shape when you pass over them; instead of dying, have something else happen when you are caught by the computer's icons, or chase *them*, for a change.

These are elementary examples, commonly used, but most games stem from just such simple roots. *Ka-Boom* is obviously just *Avalanche* with personality, but what is *Missile Command* if not an elaborate version of the same basic principle with a change in plot and scene? Isn't *Defender (et al.)* basically *Space Invaders* rotated 90 degrees with the roles reversed?

The principles are obvious, and with a little imagination you can certainly come up with something more novel and interesting. In fact, you must: many of the "easy" ideas are taken, and the market is more demanding than it used to be.

The Observer Observed

Fortunately, your game concept has to satisfy only two judges: (1) you and (2) everybody else.

Designing games should be as much fun as playing them, but nursing one from concept to finished product is no easier than taking care of a newborn. If you're not sold on the idea to start with, it will end up being worse than operating a drill press day after day. (According to *Dune*, fear is the mindkiller; but so is drudgery.) If you don't like what you're doing, construction pays better (generally), and you can let the contractor worry about selling the finished product.

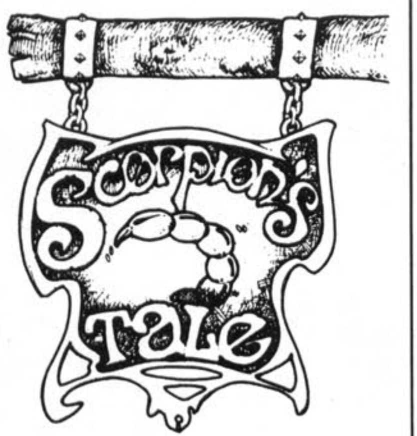
Knowing whether anyone else will like your idea does not require consulting Jeanne Dixon. Except for gimmicks, which are almost impossible to evaluate (since *nobody* knows in advance whether hula hoops or pet rocks — or videogames with flying hamburgers — will sell), all that's required is honesty and common sense.

Bring Your Binoculars

An amazing number of people who don't know one end of a joystick from the other are convinced they can come up with the next arcade hit. This is unlikely. You are not going to come up with a good arcade game if you have no feel for what makes an arcade game *good*. On the other hand, if you play nothing but arcade games, text adventure fans will probably sneer at your first foray into "their" territory. If you don't know the difference between a mongoose and a mangonel, or mustard greens ad mustard gas, you should not put much faith in that half-baked idea you had for an historical simulation.

Popular taste is not all that difficult to gauge. When in doubt, measure your latest brainstorm against such handy yardsticks as movies, TV, bookstores, magazine racks, and your last fifteen conversations. People are interested in sports and soap operas, cars and money, robots and flying saucers, fantasy and suspense; and the proverbial sex, drugs, and rock and roll are as popular as ever. The 30 Years' War (the announced subject of SPI's first computer game a few years back) is not a hot topic. As entertainment, most "educational games" rank just ahead of hunting whales, clubbing baby seals, and *anorexia nervosa*. If you can't come up with any better ideas, get yourself a partner who can.

Games are meant to be enjoyed. By people —lots of people, if you want to make lots of money. Remember, you don't have to sell out, but you do have to sell. It's the name of the game.



SUSPECT

As told by Scorpia

Come in, come in! My, you're looking a bit tired today. It must be from all that hitchhiking you've been doing. Settle in, and Fred will pour out something refreshing for you. However, don't get too comfortable; I'm afraid that you're going to be busy again very soon. It seems you're on the verge of being arrested for murder.

It's a little bit unpleasant being a Suspect, isn't it? The police are busily collecting evidence against you, and you don't have much time to prove your innocence. Ah, but let's go back to the beginning here, and take things one step at a time.

It starts at a costume ball being held by Veronica Ashcroft on Halloween evening in the luxurious Ashcroft mansion. Maryland's high society has gathered for an evening of fun and frolic, dressed in outlandish costumes, and seemingly without a care in the world. Of course, there are all sorts of things going on under the surface, and you, as a journalist, hope to pick up some choice bits for your paper. Murder is the last thing you'd expect here, so naturally one is committed. . . and the killer has thoughtfully framed you for the deed.

However, don't panic (oops, wrong adventure!). With a little bit of help, and some careful evidence-gathering on your part, we might get you out of this jam. For instance, have you noticed the weather? It's a stormy night out there, with heavy rain falling (a perfect night for murder). You might want to keep an eye on the weather from time to time during the evening; it could be useful later.

Certainly, you will want to make a VERY thorough examination of the scene of the crime. Don't overlook anything in the office; although an item might seem to be trivial, it may have an important bearing on the case. However, while Veronica may not look too pretty with your lariat wrapped around her neck, you really shouldn't remove it.

Talking to people is another good way to pass the time. Ask everyone you meet about everyone else; some interesting information can be picked up in this fashion. Of course, you'll have to make some allowances for personal prejudices, but generally, most of the people will be fairly honest with you.

Speaking of the people in the game, you'll notice they move around a great deal. This adventure has the most activity of any game, and you may get side-tracked into following harmless people to and from the bathroom. You have better things to do, so don't waste time shadowing everyone; choose with care.

One nice thing about being inside is that you can unlock doors and windows (no need to go hunting around for keys). Use this ability to your advantage, and make sure you map the entire layout of the ground floor. Don't worry about the upstairs; that's not open to the public, and there is nothing important up there. The outside is not important, either; the barn, while enticing, is locked up, and you can't get in.

Make sure you go into all the rooms. Some of them are empty, some have red herrings, but others contain important evidence (even if it doesn't look important). You can't afford to overlook anything; you MUST have all the evidence, or you won't be able to get a conviction. Also, from time to time, you might want to drop into the Ballroom for a few minutes, to see what's going on there. Events are happening in this game, and timing is crucial. Being in the right place at the right time can open up new areas of investigation for you.

Sooner or later, the body will be discovered (you may want to be on hand when Veronica is found), and the police summoned. Once this happens, you have to move quickly. The detective assigned to the case is not especially bright, but Sergeant Duffy is no fool. However, all your communications with the police must be done through the detective, and he can be useful to you in having various objects analyzed (it's amazing how little interest he shows in your requests). That's about all he's good for, really, until the time comes to make the arrest.

You will also need to present some evidence to him after he arrives (if you can find him; he moves around a lot, too). If you don't give him some other things to think about, Sgt. Duffy will be after you with the handcuffs, and that will be the end of the game. While you're at it, you might want to show some of the items you've found to several other people, too (before showing them to the detective, or you'll never see them again); you may get some interesting reactions from them.

Once the detective has some material that incriminates someone else, you can breathe a sigh of relief and continue collecting more evidence. At one point, it will be necessary to do a little breaking and entering, but don't let that worry you; no one ever asks where or how you got your evidence (which is just as well).

The end will come in the Ballroom. Eventually the detective will make his way there, and just hang out, "weighing the evidence". It's up to you to tell him who to arrest; if you don't, the game will simply go on and on indefinitely. Even though you have given him all the evidence necessary, he won't take the initiative (some detective!). Remember he has to have ALL the evidence, or you won't get a conviction.

Now, for a final word (or several): the entire game hinges on a critical point. Until you have figured out what that is, you won't get very far, because you probably won't recognize evidence when you come across it. I'm not, of course, going to say what the critical point is; I'll just tell you that seeing is not always believing. Strange things can happen on All Hallows Eve! Especially with a devious murderer running around! But I'm sure that, in spite of it all, you'll come through in the end (besides, I know you've always wanted a Pulitzer Prize!).

Before closing up the Tale for this month, I'd like to answer some questions that keep popping up in the letters I get. These questions are not related to solving adventures; rather, they are personal questions that some of the more curious among you ask from time to time. There are three of them that are asked the most, and they are:

"Do you really play all these games yourself?" Yes! Each and every one of them, and others besides. Every game that has been covered in the Tale, I've played through to the end. And I don't use hint books of any kind.

"I'm embarrassed to ask this but, err, are you male or female?" Amazing how often this one gets asked. So, for all of you who are wondering, I am very definitely female! (And those of you who sent letters with a heading of "Dear Sir" or "Dear Mr. Scorpia", don't let it worry you! It's happened before, and I've learned to live with it).

"How about doing a column on the (insert title) adventure game?" Well, I'd like to oblige, but I have to keep in mind the adventures that are popular, and have the widest distribution. From the letters alone, Infocom games are asked about the most, followed by the Ultimas. All other adventure games come in a very distant third. That's why I concentrate on the Infocom games. However, if another adventure gets really popular, I'll do a write-up on it.

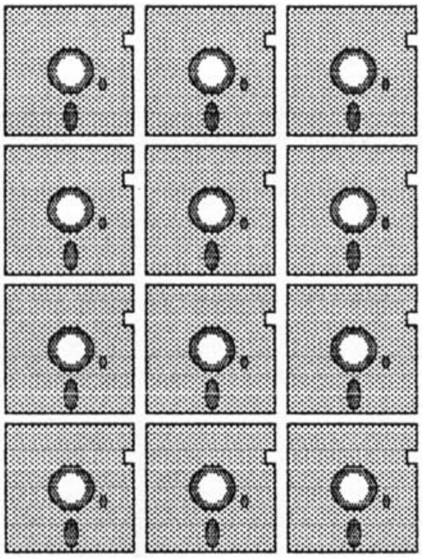
If you have an adventure game question or three (it's perfectly all right to ask more than one question at a time!), you can reach me in the following ways:

On CompuServe: GO GAM-310
On the Source: SMAIL to ST1030
US Mail (enclose a self-addressed stamped envelope):

Scorpia
PO Box 338
Gracie Station
New York, NY 10028

That's it for this issue; see you next time, and happy adventuring!

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4.4 — Jupiter Mission; Fifth Eskadra; Excalibur review and Designer's Notes; War in Russia; President Elect and 1984; Lode Runner Contest; Fighter Command; Galactic Gladiator Scenarios; Flight Simulator II and Solo Flight; Crypt of Medea; Sorcerer Tips, and more!

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5.1 — War in Russia Replay (Pt1); Hitchhiker's Guide to the Galaxy (2 articles); A Software Agent Looks at the Industry; Breakthough in the Ardennes Designer's Notes; Gulf Strike; Cosmic Balance Contest Results; Clear for Action; and more!

Circle 26 on Reader Service Card

each state, and much more color variety (right now I have 25 colors—6 shades for up to four candidates, plus the white undecided).

• Overhauling of the entire campaign process, completely de-emphasizing campaign finances, which are almost irrelevant anyway in a national race, and concentrating more on which issues to stress, how positive or negative the campaign rhetoric will be, and voter blocs (abstractly). Additionally, incentives will be added to states which are pretty much decided one way or another, thus preempting (I hope) Verdun-like struggles for key states (it's unrealistic as hell to visit California ten times each week for several straight weeks, yet, this type of thing happens, often in the industrial Midwest). I am going to try to include, albeit abstractly, the indirect effect of congressional races ...

• Scrapping the debate routine and starting over, adding graphics for immediate feedback on points scored or opponent's points neutralized, elapsed time, and a large variety of attacking or defensive debating strategies (with a running clock, so you'll need to think fast). Further, a variety of debating formats.

• A multitude of available data, so you can take as long as you like to craft an "ideal" (no such thing) strategy. . . including primarily a host of polls on who's ahead and how people feel about various things (candidate credibilty, strength on particular issues, opinions on who won recent debates, etc).

• Scenarios from 1900 - 1988, with an improved way of determining conservative vs. liberal ratings (again, using graphics), and issues pertinent to the election being recreated. By the way, debate questions will also be pertinent, though there will be no debates prior to 1960 scenarios.

• Layered rules; in other words, the option to add or delete time-consuming chrome features.

• Slightly improved election night routine. Obviously, faster. Also, one where you don't need to press any keys unless you want to key in on a particular state...the whole thing will run until someone wins (which won't take so long unless the players choose the slowest option).

• Better documentation. . . this is key. The original rules were slapped together in about two nights, believe it or not, and my "rough draft" was printed with almost no editorial changes or comment! I'll be more careful next time! And less coy about how things work.

• Optional printouts of virtually everything except graphics. I received several requests for this. . .

So as you can see, I've got a pretty nice package in mind, certainly a two-sided disk and possibly requiring 64K and (maybe as an option) two disks, one for game data—polls and stuff eat up RAM and SSI's disks are, due to write-protection, read-only, so the data has to go somewhere.

Thanks again for your remarks in the January issue; it may make me a few bucks and, more importantly, build up my prestige. . . do you think I should send your comments to Jesse Helms?

Nelson G. Hernandez

Ed.: You would not want to forward any comments we might have for Jesse Helms.

Seriously, we DO have a suggestion for PE that we feel strongly about. We would like to be able to play PE without the onus of incumbancy. If you added an option that would disenable the formulas that figure the advatage/disadvantage of the incumbant party or candidate, players could compete directly with each other. They set themselves up as the candidates (through your political rating routine) and each stand a more equal chance of winning (since the question of incumbant party would not be in the way). We realize this would not be as historically accurate, but then again, how many of our readers will actually run for president?

CROWTHERS & WOODS

Dear Editor:

The "Commodore Key" column in your December issue made the mistake of most chronicles of adventure's history—the assumption that Crowther's inspiration for the first adventure game was Dungeons & Dragons. While researching a book on the subject last summer, I spoke with Crowther and Woods. Crowther said he wrote the original version in 1967 or '68 (he didn't remember exactly), which predated Gary Gygax's role-playing game by several years.

Interestingly, Crowther says he did previously play a game with a similar theme, Mirkwood (named for a locale in J.R.R. Tolkien's *Lord of the Rings*. It was devised by a friend and never available commercially. An amateur spelunker, Crowther was also influenced by his experiences mapping Kentucky's Mammoth Cavern for the National Parks Service. (Now you know why caves and the need for map-making are so common to adventuring.) He wrote the game "to entertain my children" while working at a research firm in Cambridge.

Don Woods says he never played Dungeons and Dragons until after rewriting and expanding Crowther's game around 1975. He's now at Xerox's Palo Alto Research Center.

The book — *From Apshai to Zork: The Legend and Lure of Computer Adventure Games* — will be published by Simon & Schuster this spring. I've also enclosed a copy of QuestBusters, my monthly newsletter devoted to adventures and role-playing games.

Shay Addams

Ed. Note: "QuestBusters, The Adventurer's Newsletter" is a 12 page monthly newsletter apparently produced on a Macintosh. At $15.00 for twelve monthly issues, the price is a bit steep. However, Addams seems to know his subject and a lot of information is contained in each issue. For information on QuestBusters, contact The Addams Expedition, 202 Elgin Court, Wayne, PA 19087.

KAMPHGRUPPE (cont.)

I happen to like the German Panther and Tiger Tank. If I wished to play a game which used both the Tiger and Panther tank I would set up a scenario in which I was the German player, in a German assualt, in Late-43, with a Panzer force. From the weapons list I would then chose the Panzer to get the Panther tank and the Heavy Panzer to get the Tiger tank. Additionally, I might add some tank destroyers or recon units. A little hint here. If you chose an Engineer company the troops will be armed with Flamethrowers, which make an excellent anti-tank weapon. The variety of combinations is endless and if you get tired of German forces then you can let the computer be the Germany and you take the Soviet side.

DEPLOYMENT

After selecting the parameters, the game will move into a one-time Deployment Phase. I usually start this phase by scrolling around the map and getting a general idea of the terrain. If I don't like the terrain, then I may change it by replacing existing terrain with what I want. If I had used the auto-deploy feature then my units would already be deployed on the map and trucks would be loaded with infantry and weapons. By not using auto-deploy then I would determine the starting locations and load the trucks myself. When completely satisfied with map and forces, I then exit the Deployment Phase and the game begins by setting a visibility level and moving to the first players Orders Phase.

ORDERS

In KG, orders may be given from the "Map Mode" or the "Units Mode". There are 22 unit mode orders available. Some of the orders are only for individual units while others may apply to the entire combat formation.

COMBAT

To give you an idea of Combat in KG I would like to do a short re-play of a scenario in which I played the German and the computer was the Soviet. The battle was a meeting engagement, in late-43, with a Panzer force. I chose the late-43 time frame because the Germans had the Panther medium tank which the Russians had not yet countered. .8 *(Ed. note to author: You bully!)* I chose a force consisting of two Panzer companies, one tank destroyer company, and one recon company. I saved 6 selection points which gave me some victory points. The objective of the meeting engagement was a road, flanked by woods, with some hills nearby.

The computer gave me the usual "A" combat formation with headquarters, trucks, Hummel artillery, Wespe artillery, 88Flak anti-tank guns, and a SIG33 assault gun. My "B" formation was a Panzer company of PZ-IVG Tanks, with 0 as the Headquarters and 1 thru 3 as the individual units. I had a total of 16 PZ-IVG Tanks. I had chosen to play a small battle. If I had chosen a large battle I would have had twice as many Tanks. My "C" formation turned out to be the Panther Tanks. My "D" Formation was the tank-destroyers and the computer gave me Marders. I changed those for Nashorns with their longer range and higher penetration rating. My final unit was "E" with my SK231 armored cars. They represented my recon ability.

I was later to find out that the Russians had chosen the KV-IC as their heavy tank and the T34/76C as their medium tank. They also had some T-70 tanks, some heavy machine guns, some 76 anti-tank guns, some 82mm mortars, and some infantry. After deployment, the battle was on.

My initial move orders required three turns to achieve and I encountered no enemy units during the movement. My initial placement involved putting the artillery and headquarters units on the top of a hill just Northwest of the objective square with the remainder of the force on lower levels of the hill. The soviet forces became visible on turn four as they emerged from the woods and attacked my hill positions. The computer had made a mistake in bringing its forces out of the woods too far from my position. My artillery opened up and I had set the Panthers to maximum range so they started firing also. By the time the T34's had closed to range, they were already hurt. My artillery and Nashorns were able to supress the larger Russian tank forces thereby reducing there search and hit capability. At one point a company of 10 T-70's rushed my 88Flak guns. My guns took their toll but the tanks were able to get all 8 of my 88's. By turn 20, I had reduced the Russian force to one heavy machine gun, a few 76's, and an 83 millimeter mortar. I had lost the last of my PV-IVG tanks to an ambush by the Russian 76's. The armored cars, and most of the Panthers were also smoldering wrecks but I inflicted more damage than I took and the computer declared me to be the winner.

SUMMARY

At $59.95, KG is on the expensive side, but it is well worth the cost. The computer intelligence seems good when on defense or pursuit but it's single minded desire to destroy the enemy makes it easy prey in a computer assault scenario.

SSI tells us that they are currently testing a new game based on the KG system which would involve combat on the Western Front. I will be watching for that one.

Ed. Note: Feedback from some of our readers indicate that this could become SSI's most popular game to date. Beyond the Western Front game to which Mr. Bausman refers, SSI is also working on a modern armor game based on the Kamphgruppe system. It looks like Gary Grigsby has given us another winner!

WAR IN RUSSIA (cont.)

what (if anything) I accomplished in the second half of our game. Well perhaps a few exerpts from my official War Diary will give you an idea: "attack from Bryansk gets six to one odds but doesn't force a retreat." "northeast of Bryansk, a 5:1 does nothing." "North of Stalino, I get 10:1 odds but the defenders are just one cavalry division." "Near Rzhev, a 3:1 gets nothing." "Two 5:1 attacks, but neither takes a hex." It goes on and on like that. It was perhaps not all that bad, and we did manage a few interesting things, but most of my attacks did not capture hexes. A prime reason for this was the "entrenchment technique" which Kirk used; the other reason was Kirk's able generalship and his ability to predict from turn to turn where the weight of my attacks would fall. The "entrenchment technique", as Kirk explains it to me, involves using a very weak unit behind your front line. As this unit just sits there in supply from turn to turn, it will be able to entrench to higher and higher levels. When the front line is pressed, a good unit can move in with the skeleton unit. Then, when all of the good divisions are transfered into the skeleton unit, they automatically have the entrenchment level of the unit into which they moved. Kirk basically keeps a small fraction of his army constantly busy digging enough trenches for all the rest of his army. I never seem to attack a hex that is not well entrenched. And you don't know frustration until you've tried to knock the Russian army out of their trenches!

Trenches and *initiative*; these are the two concepts of WIR which have made lasting impressions. You may remember that the first installment of our story ended with a German advance of two hexes by an armored unit to a spot northwest of Voronezh. I also had an infantry unit advance one hex so that the armor was in contact with the rest of my forces. Well, on **Turn Five**, the computer made Kirk the "first player" in the tactical movement segment. (Each turn, there is a 5-10% chance that the Russians will move first in the turn, with the chance increasing as the war progresses). Turn Five just happened to be one which was selected, and so Kirk's forces were moved first. He attacked the infantry unit behind my armor and forced it to retreat; this put my armor out of supply and isolated. Further, I had plotted a one hex retreat for my armor to join the infantry unit, as I felt that the armor was too exposed and wanted to reinforce the infantry behind it. Instead of joining my infantry, my armor unit found itself attacking the Russians which had just cut it off. The attach was resolved at one-to-one odds and, of course, did not move the Russians; this was not at all how I had planned for things to go on this turn! I am not sure what can be done about the initiative question, I guess that the moral is just that the Russians will be given the first move only whenever it can do you the most harm (this was the only turn in our game for which they received the first move).

Turn Six was spent getting my cut off armor back in touch with my forces. They came through the ordeal at about 70% strength and about a 40% fatigue level. That was better than I had feared they might suffer, and this was because we got them back in supply quickly. **Turn Seven** marked the assault on Rostov which captured the city. Kirk had put hardly anything there, and we took it easily at 8:1 odds on our first assault. Kirk obviously hoped that I would pursue a southern strategy, and presented a very weak front down there while building reinforcements north of the Donets between Voronezh and Stalingrad (poised to cut off my advance). Actually, I consider it a major accomplishment that I resisted the temptation and maintained my force almost completely in supply throughout the game. It would have been very easy to follow the historical path of easy initial victories and advances into that southern wasteland. Within the time frame of thirteen turns, my position might have looked very good, but mortgaging the future of the Third Reich to look good in October did not seem like the right way to play it.

Turns Eight through **Twelve** had quite a bit in common. They all had three to five German attacks at various points from the north-center (Rzhev) to the south-center (between Voronezh and Rostov). We averaged one or two hexes captured each turn, but all of the Russian positions had been backed up by units on entrenchment duty, and therefore the Russian line was never in danger of any large scale breach. A few of our attacks were not well considered and resulted in low odds, but the majority achieved between 2:1 and 7:1 odds. Unfortunately, entrenchments reduced not only the chance of a retreat, but also the defender's casualties, so that I cannot be certain as to how the balance of the losses were going.

I did get one breakthrough, but it occured on the last turn that we played. After the game, Kirk explained why he wasn't too concerned about it, and I am inclined to agree that it did not amount to much of a threat. Still, it was nice to see an attack north of Kursk get 7:5:1 odds and take a hex. Then, both of my attacking armor units advanced and made second round attacks to the north. They attacked one of the few hexes which had yet to be "pre-entrenched", and got a 16:1 attack which cleared a second hex into which they both advanced. This put them only two hexes south of Moscow, without any entrenched hexes in front of them. Unfortunately, they were not connected to the rest of my line, and they had sliced between two very strongly held Russian hexes. That left two strong forces on the flanks of my advanced, all set to close around me. What would have happened is anyone's guess, but somehow I doubt that I was suddenly on the way to a quick and easy victory!

ATARI (cont.)

other special device). This feature has been standard on business micros for several years. For on-line gamers, this means one-less interface device to purchase. There's also a built-in prallel interface port for output to a printer.

Now, how much would you pay for a computer with all of these features? But wait, there's more. . .

A disk drive port for plugging in 3.5 inch disk drives for disks that can store up to 500K.

A hard disk interface port (to connect to the new Atari 10 megabyte hard disk drive).

A TV modulator and monitor jack.

A color, high-resolution monitor jack (R.G.B. Analog)

A monochrome high-resolution monitor jack

A keyboard that features an eighteen key numeric keypad, editing keys and ten function keys.

Built-in BASIC or Logo.

The announced price for the 130ST is less than $399 and for the 512K less than $599. Even though these prices do not include a monitor or disk drives, they do seem so incredibly low that one must ask if Atari can deliver the ST's at anywhere near the price.

After that, the question that faces every new computer announcement must be raised: will third party developers create software for the new line? Perhaps, since the ST's and the Mac use the same central microprocessor (the Motorola 68000), developers will try to serve both markets at once (just as many create Atari, Commodore, and Apple versions of the same program since all three use a version of the 6502 chip).

What About The One I Just Bought?

If you have recently invested in one of the Atari XL computers, you may be disappointed to learn that the new ST line is NOT compatible with the 400/800 or the XL's. However, if you are familiar with the questionable "success" of the Apple III, which has an emulation mode to allow it to run Apple II software, you might reach the same conclusion that I have that "maintaining compatibility" is a good way of hamstringing the new computer's design and of telling third party software developers that there is no need to design software for the new machine.

Just because the new line is not compatible with the old one does not mean that Atari is abondoning those of us with heave investments in our Atari computers. Atari will continue its family of 6502-based 8-bitters with the new 65XE and 130XE personal computers. Atari says the XE's are 100⁄compatible with the 400/800, 1200XL, and 600/800XL computers. (This is an interesting claim since these computers are not even 100⁄ compatible with each other). However, a great degree of compatibility is likely, since first analysis indicates that the 65XE is essentially an 800XL in a new case.

The 65XE will reportedly sell for about $120 — the same low price as the 800XL. And, the 130XE, which is basically an 800XL with 128K RAM, will sell at an especially attractive price —under $200.

In addition to 65XE and the 130XE, Atari has announced the **65XEM** and a **65XEP** personal computers, plus a variety of printers (dot matrix, color, and daisy wheel) and an 80 column color monitor that will be compatible with all Atari 8-bit computers.

The *M* in the 65XEM stands for Music. The machine is billed as a super music maker that you will be able to hook-up to your audio system. This machine will have 64K RAM, eight independent voices, and changeable music features. The output from the special chip in the XEM is supposed to be virtually indistinguishable for music made by acoustical musical instruments. Whether games will be created to take special advantage of this machine will probably depend a lot upon third party developers.

The 65XEP portable is designed with a shoulder strap, a built-in 3 1/2 inch disk drive, and a built-in 5 inch monochrome monitor. The suitability of the XEP for "games on the go" is questionable, given the tiny size of the monitor and its lack of color.

Finally, to help us keep everything straight when it comes to buying peripherals and software, Atari is color-coding everything and supplying wallet-sized reference cards for in-store shopping. The XE line will be red; the ST will be blue. This strategy is undoubtedly aimed both at aiding consumers and at convincing retailers that consumers will be able to come in and accurately select appropriate hardware and software without the need to talk with a knowledgeable salesperson. This is important, as many general merchandise and discount department stores (like Penneys and K-Mart) have been stung by their inability to move computer goods which require a knowledgeable sales staff. These retailers are now shy (or at least, a little bit wiser) when it comes to carrying a new line of personal computers.

The Future

As for the XE's: Atari's announcement to stick with us is perhaps the best news of all. In case you haven't noticed, lately more and more third party manufacturers have slowed development of software for the Atari computer, fearing that it was about to take a cottage by the sea with the Texas Instrument's 99/4A and Coleco's Adam. News that Atari is fully supporting its old line may give some of the wary game developers the impetus to jump back into Atari's software market. Let's hope so.

As for the ST's, if the Atari can produce the ST's with all the features that they announced, and if the new machines aren't plagued with hardware bugs and glitches, and if retailers carry the line, and if the price is as low as Atari says it will be, and if third-party manufacturers develop software for it, and if we consumers (gamers and non-gamers) buy the ST's, then Atari may survive. And, maybe, just maybe, Atari will regain its position as the leader in the world of computer gaming.

READER INPUT DEVICE

There were 336 RIDs turned in by press time for this issue.

Newly rated games and updated game ratings are listed with **bold type** in the table on page 46. The breakdown buy machines was: Apple — 40%; Atari — 37%; C-64 — 20%; IBM— 3%.

GAME RATINGS

The Game Ratings Table includes games evaluated by our readers. For a game to be included in this listing it must first have been offered for rating in our regular R.I.D. rating system. Games offered for evaluation are those covered in the magazine, those having a good sales record during the time of evaluation, or those which were previously rated and we think need updating. Once offered for evaluation, the game must have been evaluated by a sufficient number of readers to be included in the results. Any game not evaluated by at least 10% of the respondents was not included in the results.

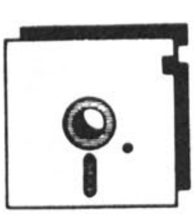
Games were rated on a scale of 1 (terrible) to 9 (outstanding). Respondents were asked to consider such things as PRESENTATION (graphics, sound, packaging, documentation); GAME DESIGN (design, playability, interesting?); LIFE (does the game wear well?)

MAJOR OVERHAUL OF R.I.D. IN PROGRESS

A major overhaul of our R.I.D. rating system begins with this issue. Some of the games on the R.I.D. chart are old and out of date. Others have not been rerated for a long time. So the first step in our renovation is to re-rate a lot of the old games and drop a lot of others from the list altogether. The R.I.D. results on page 46 are the last ones to appear under our old system.

The renovation will be in two phases. R.I.D. #19 institutes phase one. We are asking you to re-rate a large number of games that are already on the list but need updating. At the same time we will delete a number of old games from the next listing of R.I.D. in June-July.

In phase two, we will be creating a database of all past R.I.D. scores that will be updated each time a game is re-rated. The resulting score will be a composite of that game's performance over all R.I.D. ratings, not just the current rating. We feel forced to do this in light of recent wide fluctuations in scores of several re-rated games. We feel this composite score will give you a more accurate appraisal of the game's value (larger samples make for more accurate results).



RID #19 (Use card provided)

On this page a number of games are listed for evaluation. Use the guidelines above for game evaluation (i.e. PRESENTATION, DESIGN, LIFE). For each game you rate, place a 1 through a 9 next to the appropriate number. Leave blank any game which you have not played enough to have formed an opinion.

PLEASE MAIL RID #19 CARD BEFORE MAY 10, 1985.

GAMES

1. Carriers At War (SSG)
2. Ultima III (Origin)
3. Wizardry (Sir-tech)
4. Field of Fire (SSI)
5. M.U.L.E. (EA)
6. F-15 Strike Eagle (Microprose)
7. Seven Cities of Gold (EA)
8. Hitchhiker's Guide Galaxy (Infocom)
9. Archon (EA)
10. Blue Max (Synapse)
11. War In Russia (SSI)
12. Carrier Force (SSI)
13. Breakthru Ardennes (SSI)
14. Fighter Command (SSI)
15. Guadalcanal Campaign (SSI)
16. North Atlantic '86 (SSI)
17. Operation Whirlwind (Broderbund)
18. Southern Command (SSI)
19. Legacy of Llygamyn (Sir-tech)
20. Olympic Decathlon (Microsoft)
21. Geopolitique (SSI)
22. Sundog (FTL)
23. Combat Leader (SSI)
24. Infidel (Infocom)
25. Knight of Diamonds (Sir-tech)
26. Deadline (Infocom)
27. One on One (EA)
28. Sorcerer (Infocom)
29. Cartels and Cutthroats (SSI)
30. Lode Runner (Broderbund)
31. Planetfall (Infocom)
32. Computer Baseball (SSI)
33. Pursuit of Graf Spee (SSI)
34. Flight Simulator II (SubLogic)
35. Battle for Normandy (SSI)
36. Universe (Omnitrend)
37. Computer Ambush (SSI)
38. Fortress (SSI)
39. Germany 1985 (SSI)
40. Questron (SSI)
41. Ultima II (Sierra)
42. Archon II (EA)
43. NATO Commander (Microprose)
44. Reach for the Stars (SSG)
45. The Cosmic Balance (SSI)

(Make another row of numbered spaces)

46. Broadsides (SSI)
47. Knights of the Desert (SSI)
48. Eastern Front (2nd ed.) (Atari)
49. Murder on Zinderneuf (EA)
50. Robotwar (Muse)
51. Suspended (Infocom)
52. Bomb Alley (SSI) 53. Fifth Eskadra (Sim. Canada)
54. Gulf Strike (AH)
55. Rails West (SSI)
56. Legionnaire (AH)
57. Mig Alley Ace (Microprose)
58. Grey Seas, Grey Skies (Sim. Canada)
59. Clear for Action (AH)
60. Enter the number(s) for the computer(s) you own: 1 = Apple; 2 = Atari; 3 = C-64; 4 = IBM; 5 = Other.

Use remainder of card for letters to the editor. If you write a letter to the editor, please include your name and address. Although we cannot respond personally to all your letters, they are valuable tools for us in evaluating what you, the readers, want.

[OH NO, NOT AGAIN.]

SON *of* ARCHON.



Jon Freeman, Paul Reiche III and Anne Westfall created Archon, the 1983 "Game of the Year" according to Softline and Creative Computing. Recent evidence, however, indicates they were not satisfied with this.

If you took all the hours spent by all the people who've played Archon and put them together, there's a good chance it'd amount to more human effort than it took to put a man on the moon.



The Archon Dragon.

What does this mean? Is it a good thing? And why, in light of this, did the people pictured here decide to issue a scorching sequel named *Archon II: ADEPT*?

For starters, we don't really know what it means. Except that a lot of people who had a pretty good time with *Archon* are about to get more of what they like. And people who've yet to experience the best-selling, award-winning, knuckle-whitening original have *two* good things coming their way.



The Archon Basilisk.

Point two: If there's a moral issue here, we see it this way: A wise man once said, "I ain't never had too much fun." We agree. And we think that once you get your hands on *Archon II: ADEPT*, you'll see his point.

Now for the third question. Why a sequel? Well, there are sequels and there are sequels. The good ones happen because people just haven't had enough of a good thing. Obviously we're here to tell you that *Archon II: ADEPT* falls into the right category.



The ADEPT Chimera.

Where Archon took inspiration from chess, fantasy role-playing characters and arcade combat, *ADEPT* comes more from a world of its own making. Like *Archon*, it pits the forces of good against those of evil. But in place of the chessboard motif there is a map of elements—Earth, Air, Fire and Water. The role of magic is greater. The strategies are deeper. Things move faster. And the hidden algorithms that control the computer's play are considerably smarter.



The ADEPT Thunderbird.

Having already spent the better part of a month playing *ADEPT* (in order to write this ad, of course), we're quite confident it will seduce you too.

And if, by some strange chance, there is a parallel universe in which computer simulations come to life, we are confident that a large part of its population has Jon Freeman, Paul Reiche III and Anne Westfall to thank for their brief and miserable existence.





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MACHINE REQUIREMENTS: *Archon* is available on the Apple II, II+, IIe & IIc, IBM-PC, PCXT & PCjr, Commodore 64 and Atari. *Archon II: ADEPT* is available on the Commodore 64 and Atari.


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COMMODORE KEY (cont.)

profitable success are clones of the original game which are usually less of game, less of a success, and certainly of less value to the buyer who thinks he is getting just as good (or better) according to this new game's advertising, but for a lower price. Buyer beware!

However, sometimes there comes a game that truly expands on the originality of the first and adds a significant number of additional new features that make this game, though similar to the first, worthy of consideration and buying. A recent example of this game is **WIZARD**, from Progressive Peripherals nd Software. (It's a small company, so you will not see the game in many large mass-marketing stores.)

WIZARD has great similarity to one of my all time favorites. . . JUMPMAN. It has ladders and ropes and moving objects to avoid. The wizard runs, jumps, claims and falls. You have 40 screens at different selectable or random levels of play. And now for the extras. . . the wizard has two possible objectives on each screen. He can gather three types of treasure items (like the Jumpman bombs) for points or get a key and take it to a lock, allowing you to go to the next screen. This latter action will give you bonus points for early completion of the screen. Once you get the key, the wizard is given a certain number of spells (FREEZE, FIREBALL, INVISIBILITY, TRANSPORTABILITY, etc.) These can be used against the various things that keep you from easily gathering the treasue items. In addition to jumping, the wizard can also duck to avoid moving objects. Play action is enjoyable and very similar to that of Jumpman.

The big extra feature is that this game has a construction option that lets you very easily create your own screens. My nine year old son was playing the game and I left the room. When I came back, I found that he had found the construction option and had built a very involved and good looking screen without reading the very extensively written manual. That was impressive!

In addition to Wizard, there is a WIZARD EXPANSION program that has 40 more screens. Half of these were created by users. Additional screen building capabilities have also been added. If you liked JUMPMAN, this one will keep you jumping too.

COMING UP NEXT ISSUE

Next issue I will be discussing the "tools" used by game programers. The software and hardware items available to help design, write, and debug programs. I will also discuss some of the game construction software that is available. If you have any questions, comments, or suggestions pertaining to this column, send them to me using the mailing address for this magazine. I am also available as **ROY W** on **PLAYNET** (the National home computer network for Commodore 64 owners).



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LORDLINGS OF YORE



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READER INPUT DEVICE

R.I.D. was prepared with the help of SPEED STAT by SoftCorp International, Westerville, OH 800-543-1350

See page 40 for details on the Reader Input Device

Game Ratings

7.78	**Carriers at War**	**SSG**
7.52	**UltimaIII**	**Origin**
7.43	**Wizardry**	**Sir-tech**
7.41	**Field of Fire**	**SSI**
7.34	**M.U.L.E.**	**Electronic Arts**
7.31	**F-15 Strike Eagle**	**Microprose**
7.16	**Seven Cities of Gold**	**Electronic Arts**
7.06	**Hitchhiker's Guide to the Galaxy**	**Infocom**
7.04	Archon	Electronic Arts
7.04	Blue Max	Synapse
7.04	Pinball Construction	Electronic Arts
7.04	War In Russia	SSI
7.03	Choplifter!	Broderbund
7.01	Carrier Force	SSI
7.00	Breakthrough in the Ardennes	SSI
7.00	**Fighter Command**	**SSI**
7.00	Guadalcanal Campaign	SSI
7.00	Music Construction	Electronic Arts
7.00	North Atlantic 1986	SSI
7.00	Operation Whirlwind	Broderbund
7.00	Sky Fox	Electronic Arts
6.98	Southern Command	SSI
6.97	**Legacy of Llygamyn**	**Sir-tech**
6.97	Olympic Decathlon	Microsoft
6.96	Geopolitique	SSI
6.94	Shattered Alliance	SSI
6.93	Combat Leader	SSI
6.93	Galactic Gladiators	SSI
6.92	Infidel	Infocom
6.92	**Knight of Diamonds**	**Sir-tech**
6.92	Starcross	Infocom
6.92	The Quest	Penguin
6.91	Castle Wolfenstein	Muse
6.91	Deadline	Infocom
6.91	One One One	Electronic Arts
6.89	Sorcerer	Infocom
6.88	Cartels & Cutthroats	SSI
6.88	Lode Runner	Broderbund
6.87	Planetfall	Infocom
6.87	Computer Baseball	SSI
6.86	Pursuit of Graf Spee	SSI
6.85	Excalibur	Atari
6.85	Flight Simulator II	SubLogic
6.84	Battle for Normandy	SSI
6.82	Computer Ambush	SSI
6.82	Cytron Masters	SSI
6.82	Germany 1985	SSI
6.82	Questron	SSI
6.81	Championship Golf	Hayden
6.81	Chess 7.0	Odesta
6.81	Ultima II	Sierra On-Line
6.79	Archon II:Adept	Electronic Arts
6.78	**Starleague Baseball**	**Gamestar**
6.77	Galactic Adventures	SSI
6.75	Reach for the Stars	SSG
6.72	**Karateka**	**Broderbund**
6.72	**The Cosmic Balance**	**SSI**
6.71	Broadsides	SSI
6.70	Knights of the Desert	
6.66	Astro Chase	First Star
6.66	Napoleon's Campaigns	SSI
6.66	Eastern Front(2nd ed.)	Atari
6.65	Murder on the Zinderneuf	Electronic Arts
6.61	Witness	Infocom
6.59	Robotwar	Muse
6.58	Suspended	Infocom
6.57	Spy vs. Spy	First Star
6.56	David's Midnight Magic	Broderbund
6.54	Bomb Alley	SSI
6.54	Ultima I	Cal Pacific
6.50	Fifth Eskadra	Sim. Canada
6.49	**Gulf Strike**	**Avalon Hill**
6.48	Rails West	SSI
6.47	Epidemic	SSI
6.46	Ringside Seat	SSI
6.45	Soloflight	Microprose
6.44	Legionnaire	Avalon Hill
6.43	Under Southern Skies	Avalon Hill
6.41	Mig Alley Ace	Microprose
6.33	Grey Seas, Grey Skies	Sim. Canada
6.33	Starbowl Football	Gamestar
6.29	Paris In Danger	Avalon Hill
6.28	**Clear For Action**	**Avalon Hill**
6.28	Temple of Apshai	Epyx
6.27	Mask of Sun	Ultra Soft
6.25	Beyond Castle Wolfenstein	Muse
6.20	Cutthroats	Infocom
6.19	NATO Commander	Microprose
6.17	Seastalker	Infocom
6.17	Fortress	SSI
6.08	Panzer-Jagd	Avalon Hill
6.07	Old Ironsides	Xerox

OMNITREND'S

UNIVERSE

For 200 years the people of Axia, the central planet in a cluster of colonies known as the Local Group, have relied on spacecraft from Earth for economic support. The spacecraft, propelled by Earth's prized Hyperspace Booster, arrive regularly at Axia, carrying Earth's latest technological advances and trained personnel. These shipments from Earth are strictly one-way, because the Local Group does not have a Hyperspace Booster; Earth has been dispatching the ships based only on her faith in the colonists' ability to survive.

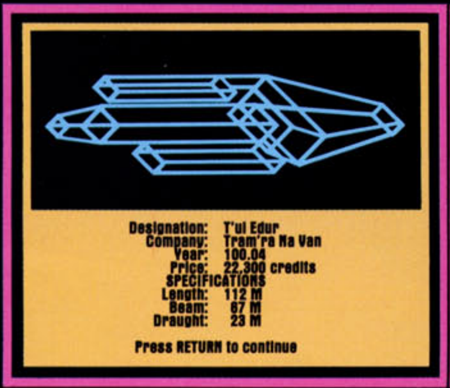
Four months ago, the expected ship did not arrive. The colony has been caught in a wave of desperate concern and wild speculation, for without Earth's assistance, technological deterioration is certain.

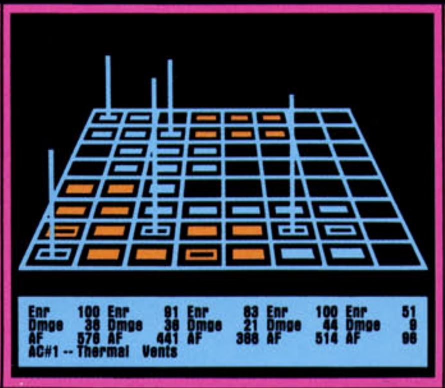
Fifteen days ago, evidence of a second Hyperspace Booster, lost somewhere in the Local Group, surfaced. Discovery of this second Booster would mean a fortune for those who found it, and would renew contact with Earth; failure to find the Booster would mean the eventual destruction of the colonies. You and your colleagues have decided to search for it.

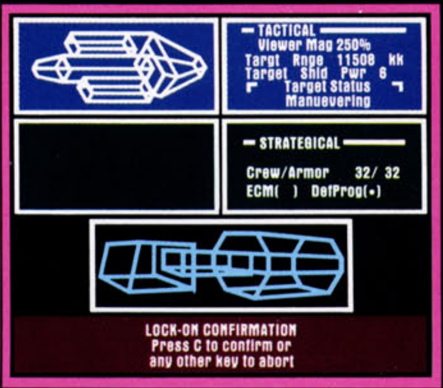
Your search takes you through a multitude of star systems and planets, using true three dimensional flight, orbits, and orbital transfers. But your voyage will not be free. You must earn money to maintain spacecraft and crew. You will need to use your ship for passenger transport, mining, trading in exotic goods, or, for the desperate, piracy. You may need to defend yourself, for there are others who are eager for profit and power. You will have to construct the spacecraft most suited to your endeavor and decide what is needed to survive in deep space while contending with unknowns.

This real time game, with hundreds of kilobytes of data, features intelligent enemy ships and total control of on-board facilities such as computers, high-resolution scanners, weapons, assault capsules, ore processors, orbital shuttles, rescue pods, and much more.

Using high-resolution graphics, and more than 30 custom displays—distributed on several disks—Omnitrend's Universe allows you to experience the life of a starship captain in search of the lost Hyperspace Booster.







Requires: Apple][,][+, //c, //e with 48K, DOS 3.3, minimum 1 drive. IBM-PC, IBM-XT, IBM compatible with 192K, PC-DOS 2.0 or higher, color graphics, minimum 1 drive. Zenith Z-100 series with 192K, MS-DOS 2.0 or higher, color graphics, minimum 1 drive. To order contact your local dealer or telephone Omnitrend (203) 658-6917. Price: $98.50 plus applicable charges as noted below. Terms and Conditions • Personal/Corporate checks allow 15 days to clear • C.O.D. orders accepted with $5.00 non-refundable surcharge Master Card and Visa include telephone number • All Connecticut residents, add 7 1/2% sales tax • Shipping, handling, and insurance $4.00 minimum per unit, additional $3.00/unit for UPS Blue Label • Alaska, Hawaii and export orders subject to additional charges Prices subject to change without notice • Dealer/Distributor inquiries invited. • IBM-PC and IBM-XT are trademarks of IBM Corporation. Apple][,][+, //c, and //e are trademarks of Apple Computer, Inc. Zenith Z-100 is a trademark of Zenith Data Systems.

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